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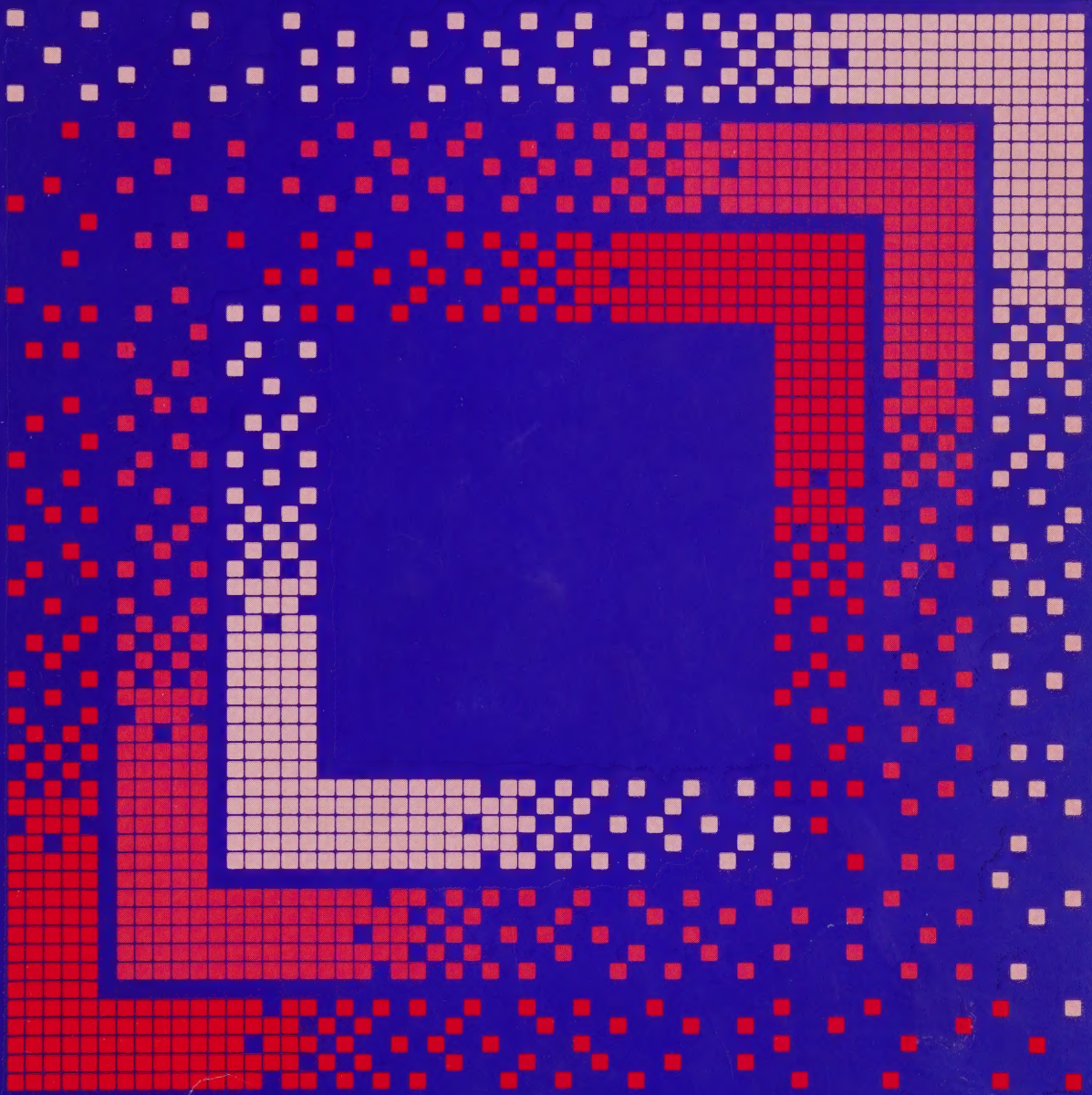
Health status of Canadians



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PREFACE

The General Social Survey (GSS), a continuing program with a single survey cycle each year, has two principal objectives: first, to gather data on social trends in order to monitor changes in Canadian society over time, and second, to provide information on specific social issues of current or emerging interest.

The sixth annual cycle of the General Social Survey which collected data from January to December 1991, concentrated on health and marks the first repeat of the GSS core subject areas. The basic survey was supplemented by the Seniors Secretariat and other branches of Health Canada who provided funding for selected content modules and for the inclusion of an additional sample of persons aged 65 and over to allow for more in-depth analysis of data on seniors.

A data file from this survey was released in June, 1992 and a number of articles based on the data have been published in **Canadian Social Trends** and **Health Reports.** This report provides a detailed analysis of findings based on this survey and includes comparisons with findings from the 1985 GSS and the 1978-79 Canada Health Survey.

In recognition of the broad scope of the data being produced by the General Social Survey, as well as the wide range of expected users from governments, universities, institutes, business, media and the general public, the project has placed particular emphasis on access to the survey database. The public use microdata file allows researchers to carry out their own analysis of this rich database. Copies of this microdata file can be obtained by contacting the Housing, Family and Social Statistics Division, Statistics Canada.

This report was written by the following individuals: Wayne Millar (Chapters 5, 8, 9,10), Thomas Stephens (Chapters 2, 3, 6), Tamara Knighton (Chapters 1, 7), Randy Woods (Chapters 2, 6), and Jennifer Mosgrove (Chapter 4). Thomas Stephens also acted as editor for the overall report, with assistance from Marla Sheffer. Ed Praught was the manager for the General Social Survey Cycle 6.

Ivan P. Fellegi
Chief Statistician of Canada

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Many people took time to review earlier drafts of this report. External reviews were conducted by: Owen Adams, Canadian Medical Association (Chapters 3 and 7); Edward Adlaf, Addiction Research Foundation (Ch. 8); Douglas Angus, Queens - University of Ottawa Economic Projects (Ch. 7); Michael Boyle, McMaster University (Ch. 3); Larry Chambers, McMaster University (Ch. 4); Cora Craig, Canadian Fitness and Lifestyle Research Institute (Chapters 5 and 10); David Feeny, McMaster University (Ch. 3); Janice Forsyth, Canadian Council on Smoking and Health (Ch. 9); William Furlong, McMaster University (Ch. 3); Gaston Godin, Laval University (Ch. 10); Paul Grayson, York University (Ch. 6); Kathryn Green, University of Saskatchewan (Ch. 6); Silvana Luciani, Health Canada (Ch. 5); Patricia MacNeil, Health Canada (Ch. 8); Pranial Manga, University of Ottawa (Ch. 7); Ian McDowell, University of Ottawa (Ch. 4); Linda Pederson, University of Western Ontario (Ch. 9); Carol Silcoff, Health Canada (Ch. 4); Claude Strohmenger, Health Canada, (Ch. 3), George Torrance, McMaster University (Ch. 3); Brenda Wagman, Canadian Council on Smoking and Health (Ch. 9); and Kathryn Wilkins, Health Canada (Ch. 2).

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Special thanks are owed to Nancy Turner of the Housing, Family and Social Statistics Division, Statistics Canada for her work in coordinating the production of the report and her contributions to Chapter 2.

Finally, special thanks go to Russell Wilkins of the Canadian Centre for Health Information for his development of the income adequacy variable.

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CHAPTER 1

INTRODUCTION

The 1991 General Social Survey (GSS) Cycle 6 marks the first repeat of the GSS core subject areas. Most of the core content of Cycle 6 repeats that of Cycle 1 (1985). As well, much of the core content was included in the Canada Health Survey (1978-79). This report features changes in health status over time using the three above-mentioned surveys. Differences in question wording or other survey methods are dealt with in this and subsequent chapters.

1.1 HIGHLIGHTS

- Skin or other allergies (21%), arthritis and rheumatism (21%), and high blood pressure (16%) were the chronic health problems most commonly reported by Canadian adults aged 15 and over in 1991.

- Allergies including hay fever, arthritis and rheumatism, as well as, high blood pressure, migraines, digestive problems other than ulcers, emphysema, and asthma, were substantially more common in 1991 than in 1978.

- Most of the chronic health problems probed in the survey, as well as difficulties sleeping and troubles with pain, become more common as income adequacy declines. Hay fever is an exception: it is most prevalent at the highest income levels.

- Twenty percent of adults report being bothered by pain and discomfort, and one-quarter have trouble going to sleep or staying asleep.

- Over 2.3 million Canadian adults (11% of those aged 15 and over) report that a long-term health problem limits the kind or amount of activity that they can do at home, work, or school. This compares with 14% in 1978-79 and 12% in 1985. Back problems were the single most important cause underlying long-term activity limitations in 1991.

- Less than one-third of Canadian adults (29%) report no reduced health status function. The most common functional problems reported are: visual (50%), cognitive (26%), and emotional (21%). Equal proportions have one attribute (35% overall) or two or more attributes (34%) affected.

- Over half of all adult Canadians (55%) describe themselves as very satisfied with their health status, while only 3% are very dissatisfied.

- Sixteen percent of Canadian adults report high levels of positive well-being. Eight percent have a predominance of negative affect, indicating at least some emotional distress.

- Emotional well-being is positively related to financial well-being.

- Approximately 3.7 million Canadians are at risk of developing health problems because of excess body weight. This estimate represents 23% of the population aged 20 to 64.

- Among those aged 20 - 64, the prevalence of being overweight is greater among men (28%) than among women (18%).

- About 1.5 million adults representing about 9% of the population aged 20 to 64 are underweight. The prevalence of being underweight is greater among women (15%) than among men (3%).

- The highest prevalence of being underweight occurs among young women aged 20 to 24. About 25% of women in this age group are underweight. Young women in British Columbia (33%) and Quebec (28%) are most likely to be underweight.

- Slightly more than half of the Canadian paid employed population aged 15 and over is provided with insurance for disability (56%), extra medical/surgical care (53%), and dental care (53%) through work.

- Access to employment benefits of all kinds tends to increase with occupational status, but men are usually more likely than women working outside the home to have access to employment health benefits. Sex differences in disability, medical and dental benefits hold true for all occupational categories but are most pronounced in skilled and semi-skilled occupations.

- Two-thirds of employed Canadian adults — approximately 9,689,000 people in all — believe that they were exposed to some sort of physical health hazard in the workplace in the 12 months preceding the 1991 GSS. The most common perceived risks are exposure to dust or fibres in the air and working in proximity to a computer screen or terminal.

- The vast majority of employed Canadians describe themselves as very satisfied (57%) or somewhat satisfied (28%) with their jobs. Those with access to employment health benefits and less exposure to health hazards at work are more likely to be satisfied with their jobs.

- More than nine out of 10 Canadians (94%) aged 15 and over reported contact with a health care professional in the 12 months prior to the 1991 GSS. General practitioner consultation is the most frequently cited contact, reported by 82% of Canadians. Psychologist consultation is the least frequently cited contact, reported by 4% of Canadians.

- People with a low income are more likely than higher-income Canadians to visit a general practitioner, medical specialist, nurse or psychologist. For example 86% of those with the lowest incomes reported visiting a general practitioner, compared to 83% of those with the highest incomes.

- Canadians with a higher income are much more likely to consult a dentist at least once a year. Approximately 76% of Canadians with the highest incomes reported a visit with a dentist in the 12 months prior to the survey, compared to 33% of Canadians with the lowest incomes.

- Approximately 11.6 million persons, representing 55% of adult Canadians, are current drinkers — i.e. they report consuming alcoholic beverages at least once a month. This is a decrease from 63% in 1985.

- Men are more likely than women to be current drinkers and to consume more alcohol per week. Two thirds of men are current drinkers (67%), compared to 44% of women. Fifteen percent of male current drinkers consume 14 or more drinks per week, compared to 4% of female current drinkers.

- For the first time since statistics on smoking began to be collected in Canada, the prevalence of daily smoking is the same (26%) for men and women.

- The prevalence of smoking is higher among young women (ages 15 to 19) than among young men. About 20% of young women smoke daily, compared to 12% of young men. Among young women, 26% are current smokers (daily plus occasional smokers), compared to 20% of young men.

- The prevalence of smoking declined in all age groups between 1985 and 1991. The trend to lower smoking rates is apparent in all regions.

- The probability that a person is a smoker increases directly with the number of other smokers in the household.

- Approximately 6.7 million Canadian adults are physically active in their leisure time. This represents about 32% of the adult population. Conversely, approximately one in five Canadian adults (22%) lead a sedentary lifestyle.

- Levels of leisure-time physical activity are associated with gender, and province. In general,

men tend to be more physically active than women, and residents of Ontario and Quebec are less active than Canadians in other regions of the country.

- Level of physical activity is associated with level of education. Persons with higher educational status are more likely to be physically active during their leisure hours than persons with lower levels of education.

1.2 FEATURES OF REPORT

1.2.1 Style and Themes of Report

All chapters in this report present results using consistent classifications of sex, age, income, and province. As well, additional independent variables are examined in several chapters. For the purpose of this report, the term adults refers to those aged 15 years and over. Throughout the report, differences were not tested for significance. Because of the large sample size, differences which are large enough to be meaningful from a subject matter point of view are likely to be statistically significant. The authors have focused on such differences.

The regular sample size of approximately 10,000 respondents was augmented by an oversample of 1,611 respondents from the population aged 65 and over. This additional sample was sponsored by the Seniors Secretariat, Health Canada, and allowed the results for those aged 65 and over to be presented in two detailed age groups — 65 to 74 and 75 and over.

Additionally, results are presented using a provincial breakdown rather than the regional breakdown that was consistently presented in the 1985 publication. Results presented by province can be more beneficial for interpretation because data presented by region sometimes mask substantial variations among provinces in that region. Additionally, data presented by province are useful in making direct comparisons with legislation and policies, which may differ among provinces.

A new definition of income adequacy has been adopted for this report. This indicator takes into account both household income and household size to derive five levels of income adequacy ranging from lowest to highest (Text Table 1-A). The term adequacy refers to the fact that the amount of income that is adequate depends on the number of people to be supported. This variable is formulated in a fashion similar to the Statistics Canada Low-Income Cut-Off levels, but the two variables should not be considered equivalent, as income-receiving units and the components included in total income are different. Income adequacy is expressed in categories which are multiples (or a fraction) of the upper limit of the income received by the poor and should be more meaningful for the analysis of inequalities.

1.2.2 Organization of Report

This report is organized into three sections. The first section deals with current health status and includes chapters on Chronic Conditions, Pain, and Sleep Difficulties (Chapter 2); Health and Function (Chapter 3); Psychological Well-Being (Chapter 4) and Weight and Height (Chapter 5). The second section of the report deals with health benefits and services, and includes Work and Health (Chapter 6) and Health Care Utilization (Chapter 7). The final section of the report deals with behavioural risk factors and includes Alcohol Use (Chapter 8), Smoking (Chapter 9), and Leisure-Time Physical Activity (Chapter 10).

This report provides a detailed analysis of findings from the 1991 GSS survey and includes comparisons with findings from the 1985 GSS[1] and the 1978-79 Canada Health Survey.[2] Other comparisons are made with the Health Promotion Surveys (1985, 1990)[3,4] and the National Alcohol and Other Drugs Survey (1989).[5]

Each chapter begins with highlights of the findings, describes methods and definitions specific to the subject matter of that chapter, presents detailed results, and concludes with a brief discussion on the implications of the findings.

1.3 OVERVIEW OF GSS PROGRAM AND CYCLE 6

1.3.1 Objectives

The GSS was initiated by Statistics Canada in order to reduce gaps in the statistical information system, particularly in relation to socio-economic trends. Many of these gaps could not be filled

TEXT TABLE 1-A
Income adequacy defined

Income group	Persons in household				
	1	2	3	4	5+
	(Household income $ values expressed in thousands)				
Lowest	<$10	<$10	<$10	<$10	<$15
Lower middle	$10-14.9	$10-14.9	$10-19.9	$10-19.9	$15-29.9
Middle	$15-29.9	$15-29.9	$20-39.9	$20-39.9	$30-59.9
Upper middle	$30-59.9	$30-59.9	$40-79.9	$40-79.9	$60-79.9
Highest	$60-80+	$60-80+	$80+	$80+	$80+

General Social Survey, 1991

through existing data sources or vehicles because of the range or periodicity of the information required or the lack of capacity of relevant vehicles.

The GSS has two principal objectives: first, to gather data on trends in Canadian society over time, and second, to provide information on specific policy issues of interest. To meet these objectives, the General Social Survey was established as a continuing program with a single survey cycle each year.

1.3.2 Content

The GSS gathers a wide variety of data to meet different kinds of needs for a very broad spectrum of users. To achieve the objectives outlined above, the GSS has three components: Core, Focus, and Classification.

Core content is directed primarily at monitoring long-term social trends by measurement of temporal changes in living conditions and well-being. Main topics within Core content include health, time use, personal risk, work and education, and family and social support. As all Core content topics cannot be treated adequately in each survey cycle, a single cycle covers a specific topic, which recurs on a periodic basis. The Core content of the 1991 General Social Survey, the sixth cycle, was health.

Within a typical survey cycle, data on the status of the Canadian population in terms of the Core topics are collected, as well as data on factors that act as barriers and bridges to improving this status. Thus, in Cycle 6, data on health status measures such as activity limitation, well-being, and chronic health problems were collected, as well as data on smoking, alcohol use, and physical activity — barriers and bridges to improving health status.

Focus content is aimed at meeting the second objective of the General Social Survey, namely, to provide information touching directly on a specific policy issue or social problem, such as influenza vaccinations. In comparison to Core content, Focus is more specific to immediate policy issues. This does not imply that Core content has little relevance to policy questions and social issues. However, in comparison to Focus content, Core content is not principally driven by short-term policy issues, but rather provides the means for monitoring and analysis of important aspects of behaviour and living conditions of Canadians over the longer term. Focus content for Cycle 6 covered flu vaccinations, job benefits, old age and disability income, and measures of emotional health.

Classification content provides the means of delineating population groups and is used in the analysis of Core and Focus data. Examples of

classification variables are age, sex, education, and income.

A public use microdata tape is available to facilitate further analysis. To purchase this tape or for further information, please contact:

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Housing, Family and Social Statistics Division
Statistics Canada
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1.3.3 Sample Design

The target population of the 1991 GSS consisted of all individuals aged 15 and over living in the 10 provinces of Canada, with the exception of full-time residents of institutions.

The population was sampled using random digit dialling (RDD) techniques and interviewed by telephone, thus excluding from the sample those persons living in households without telephones. These households account for less than 2% of the target population. The sample was allocated to provinces in proportion to the square root of the size of their populations, and to strata within provinces in proportion to their population. In addition, the sample was augmented by an oversample of the population aged 65 and over. The additional sample was drawn from the Labour Force Survey rotate-outs. A total of 11,924 persons were interviewed and answered the questionnaire, yielding a response rate of 80%. This sample size was large enough to allow extensive analysis at the national level and increasingly more limited analyses as the geographical focus shifts to regions and provinces.

Appendix I contains additional information on the sample design and estimation procedures.

1.3.4 Data Collection and Forms

For the first time, data for the 1991 GSS were collected over the 12 months to counterbalance seasonal variations in many health and lifestyle issues. Data collection took place from five regional offices — Halifax, Montreal, Sturgeon Falls, Winnipeg and Vancouver. Advantages of monthly data collection include experienced interviewing staff and controlling for the effects of seasonality. One disadvantage of this method is that the small number of interviewing staff could introduce a data collection bias.

Data were collected from 11,924 respondents aged 15 and over. There were 2,951 non-responses, for a total sample size of 14,875. Copies of the questionnaires used are shown in Appendix II.

Data were collected on two forms. The Selection Control Form (GSS 6-1) was used to ensure that the telephone number reached belonged to an eligible household, to record some demographic data for each household member (age, sex, marital status, and relationship to a reference person), and to randomly select a respondent aged 15 and over. Only one respondent per household was selected. The Health Questionnaire (GSS 6-2), composed of the Core content questions, Focus content questions, and the Classification content questions, was then administered. The 1991 survey is the first GSS cycle to accept proxy interviews. Proxy interviews were allowed in instances where the selected person was too ill to participate and where the selected person was unable to speak either English or French and someone in the household was able to provide the information. They represent 4% of the interviews obtained.

1.3.5 Data Processing and Estimation

Data capture personnel in the Statistics Canada regional offices keyed data directly from the survey questionnaires into minicomputers. Following the interviews, all questionnaires were captured and put through a computer edit allowing the interviewers to resolve any problems (e.g., improper skip problems or key punch errors). These data were then transmitted electronically to Ottawa. All survey records were again subjected to an extensive computer edit. Partial non-responses and flow pattern errors were identified. Missing or incorrect data were recoded as "not stated" (n.s.) or, in a very few cases, for key classification variables imputed from other areas in the same questionnaire.

Each person in a probability sample can be considered to represent a number of others in the surveyed population. In recognition of this, and utilizing sample design information, each survey record was assigned a weight that reflected the number of individuals in the population that the record represented. These weights were adjusted for non-response and for the differences between

the target population and the surveyed population using population counts for the target population. The estimates presented in this report were calculated using the adjusted weights.

More information on the sampling and estimation procedures can be found in Appendix I.

1.3.6 Data Limitations

It is important to recognize that the figures that appear in this report are estimates based on data collected from a small fraction of the population (roughly one person in 2,000) and are subject to error. The error can be divided into two components: sampling error and non-sampling error.

Sampling error is the difference between an estimate derived from the sample and the one that would have been obtained from a census that used the same procedures to collect data from every person in the population. The size of the sampling error can be estimated from the survey results, and an indication of the magnitude of this error is given for the estimates in this report. Figure 1-A shows the relationship between the size of an estimate and its sampling error (expressed as the coefficient of variation: the ratio of the standard deviation to the estimate). If the estimated sampling error is greater than 33% of the estimate, it is considered too unreliable to publish and the symbol '- -' is printed in table cells where this occurs. In terms of Figure 1-A, all estimates below point (A) on the estimate axis fall into this "unreliable" category. Although not considered too unreliable to publish, estimates with an estimated error between 16.5% and 33% of the related estimate should be "qualified" and used with caution. All estimates between points (A) and (B) on the estimate axis of Figure 1-A fall into this "qualified" category. All estimates above point (B) on the estimate axis can be published without qualification. Appendix I presents guidelines for estimating standard deviations, calculating confidence intervals and performing hypothesis testing.

All other types of errors, such as coverage, response, processing, and non-response, are non-sampling errors. Many of these errors are difficult to identify and quantify.

Coverage errors arise when there are differences between the target population and the surveyed population. Households without telephones represent a part of the target population that was excluded from the surveyed population. To the extent that this excluded population differs from the rest of the target population, the estimates will be biased. As these exclusions are small, one would expect the biases introduced to be small. However, since there are correlations between a number of questions asked on this survey and the groups excluded, the biases may be more significant than the small size of the groups would suggest.

Individuals residing in institutions were excluded from the surveyed population. The effect of this exclusion is greatest for people 65 years and over, for whom it approaches 9%.[6]

In a similar way, to the extent that the non-responding households and persons differ from the rest of the sample, the estimates will be biased. The overall response rate for the survey was 80%. Non-response could occur at several stages in the survey. There were two stages of information collection: at the household and individual levels. As is shown in Figure 1-B, about 73% of non-response occurred at the household level. Non-response also occurs at the level of individual questions. For most questions, the response rate was high, and, in tables, the non-responses appear under the heading "not stated".

While refusal to answer specific questions was very low, accuracy of recall and ability to answer some questions completely can be expected to affect some of the results presented in the subsequent chapters. Awareness of exact question wording (Appendix II) will help the reader interpret the survey results.

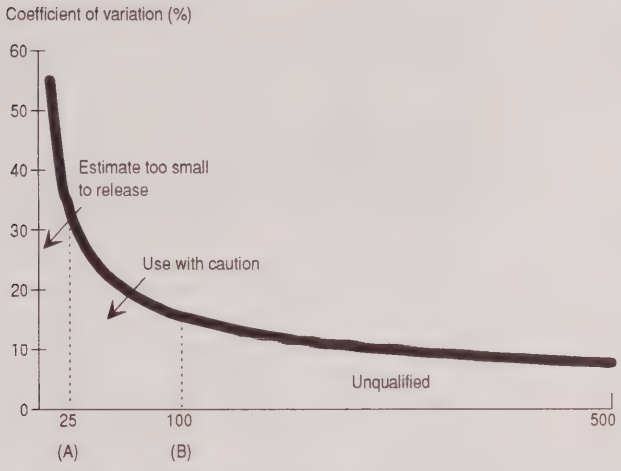
Since the survey is a cross-sectional survey, caution is required in making causal inferences about the association between variables. Observed associations may be a reflection of differences between cohorts, period effects, differences between age groups, or a combination of these factors.

1.3.7 Cycle 6 Special Features

In addition to the survey, two special projects were conducted. A feasibility pilot test of longitudinal data collection procedures was conducted in September 1991 and involved households that had participated in the 1990 GSS Cycle 5 Survey on Family and Friends. The test

FIGURE 1-A
Estimated sampling variability by size of estimate, Canada

Core sample, persons 15 years and over

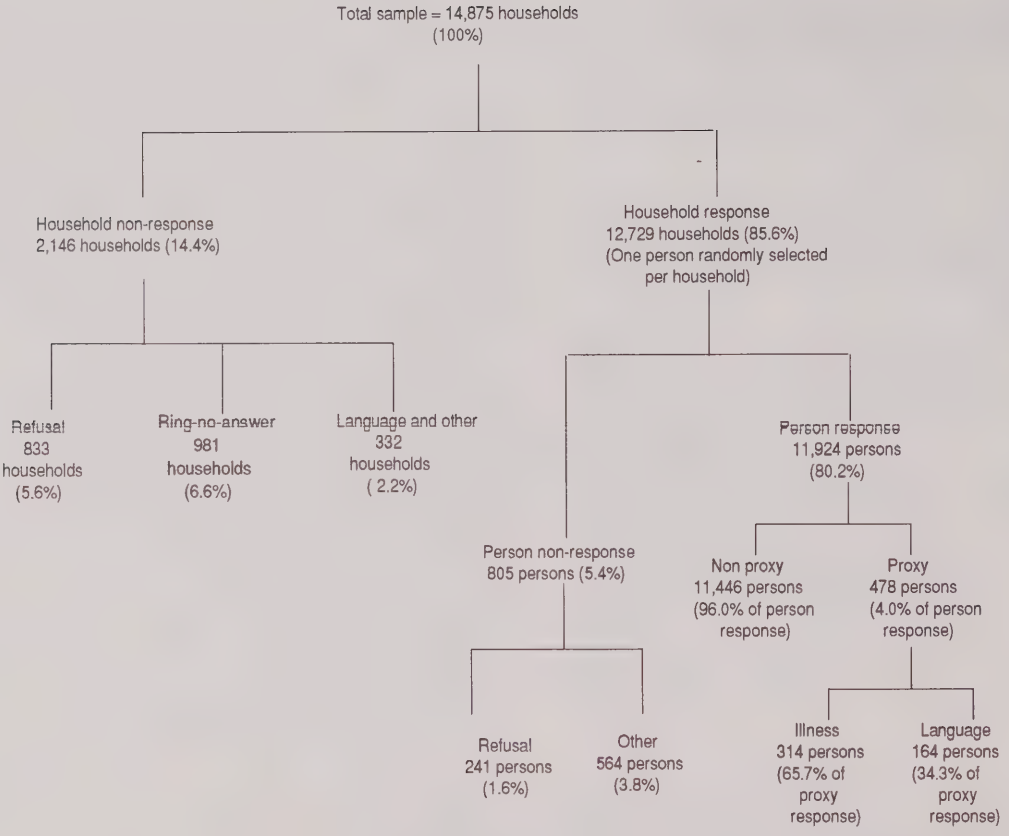


General Social Survey, 1991

Note: Only coefficients of variation (c.v.) applicable to estimates for Canada as a whole are shown in Figure 1-A. The difference between the true population size and the estimated population size (expressed as a percentage of the estimate) will be less than the c.v. 68% of the time, less than twice the c.v. 95% of the time, and less than three times the c.v. 99% of the time.

The corresponding cut-off points (i.e. points (A) and (B) for the regions and provinces are as follows: Atlantic Region (9,40), Newfoundland (8,30), Prince Edward Island (3,12), Nova Scotia (11,40), New Brunswick (9,35); Quebec (25,100); Ontario (35,150); Prairie Region (13,55), Manitoba (11,40), Saskatchewan (9,35), Alberta (15,60); British Columbia (19,75).

FIGURE 1-B
Response magnitudes and rates



General Social Survey, 1991

involved 1,000 households, 700 in which only tracing procedures were tested and 300 additional in which both tracing and a Cycle 6 questionnaire were administered. Although the pilot test proved successful, any future longitudinal component will be contingent on funding support.

The second project involved a reinterview study. The principal focus of this study was a series of questions newly developed by researchers at McMaster University and intended to classify individuals along a continuum of health status.[7] Other objectives of the reinterview were: to measure the quality of data obtained from the main survey; to measure the response variance of respondents, i.e., the extent to which respondents "changed" their answers from day to day; and to measure changes in the respondents' health. The reinterview questionnaire was composed of Sections A to F from the Main Survey and a new Section G, which sought to determine if there had been any changes in the respondents' health since the main survey interview. Sub-samples of respondents from the August and September RDD samples were reinterviewed in September and October, respectively. Reinterviews were attempted with 555 main survey respondents, and 510 responses were obtained.

None of the analyses in this report relates to either the longitudinal follow-up pilot study or the reinterview project.

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CHAPTER 2

CHRONIC CONDITIONS, PAIN, AND SLEEP DIFFICULTIES

2.1 HIGHLIGHTS

- Skin or other allergies (21%), arthritis and rheumatism (21%), and high blood pressure (16%) were the chronic health problems most commonly reported by Canadian adults aged 15 and over in 1991.

- Allergies including hay fever, arthritis and rheumatism, and high blood pressure, as well as migraines, digestive problems other than ulcers, emphysema, and asthma, were substantially more common in 1991 than in 1978.

- Most of these conditions become more common with age, especially at ages 65 to 74, although there is little further increase at age 75 and over.

- Most of these chronic health problems, as well as difficulties sleeping and troubles with pain, become more common as income adequacy declines. Hay fever is an exception: it is most prevalent at the highest income levels.

- Twenty percent of adults report being bothered by pain and discomfort, and one-quarter have trouble going to sleep or staying asleep.

- The vast majority of Canadians aged 15 and over report that they are very or somewhat satisfied with their health.

2.2 METHODS

This chapter describes survey results regarding chronic conditions, pain and discomfort, and sleep difficulties. It is important to emphasize that, for most of these symptoms and conditions, the data obtained were based strictly on self-report. However, reports of three conditions were based on the earlier assessment of a health professional.

Hypertension (high blood pressure), heart trouble, and diabetes were identified by Questions A4-A9, respectively (see Appendix II), each requiring the respondent to report an earlier medical diagnosis. Thus, the data for these conditions are lifetime prevalence rates. The questions were the same as in the 1985 GSS. All other chronic conditions reported in this chapter were listed in Question A10, and the respondent was simply asked if he or she currently had the condition — that is, the questions provide point prevalence. Some of these conditions were probed in the 1978-79 Canada Health Survey; most were not in the 1985 GSS.

The experience of chronic pain (Questions E30-E31) was queried as part of a battery of questions about health status indicators (see Chapter 3). Regular "trouble going to sleep or staying asleep" (Question H3) was part of a short series of questions about sleep at about the midpoint of the GSS interview. Questions concerning both pain and sleep difficulties were new in 1991.

Non-response for these questions was generally 1% or less of the total, except for "one or more health problems," for which it was 5%.

Further details on the methods, including the sample design, may be found in Chapter 1.

2.3 RESULTS

2.3.1 Prevalence of Chronic Conditions in Canada

Almost two-thirds (63%) of Canadian adults, or 13.2 million persons, reported at least one chronic health problem at the time of the 1991 GSS. The most common problems reported from the 13 conditions presented to the respondent were skin or other allergies (21%), arthritis and rheumatism (21%), and hypertension (16%) (Text Table 2-A).

Chronic conditions and age

The number of Canadians reporting at least one health problem increases with age. This is hardly surprising when three of the conditions are based on lifetime prevalence, but this observation is not limited to these three conditions. Arthritis and rheumatism, heart trouble, hypertension, diabetes, emphysema, and emotional disorders all occur more frequently in older segments of the population. However, the prevalence of hay fever and allergies *decreases* with age (Table 2-1).

Almost 90% of Canadians aged 75 and older report at least one of these conditions. For many of these conditions, there is a pronounced increase in prevalence at ages 65-74. Interestingly, heart trouble is the only one of these conditions clearly more prevalent among those 75 years of age and older than among those aged 65 to 74 (Table 2-1).

Chronic conditions and sex

More Canadian women than men (66% vs. 59%) report at least one health problem (Table 2-1). All the chronic conditions considered by the GSS except high blood cholesterol are at least as common among Canadian women as among Canadian men, and some conditions are substantially more prevalent among women. In particular, women report higher rates of arthritis, allergies, migraine headaches, and emotional troubles (Figure 2-A).

Provincial variations in chronic conditions

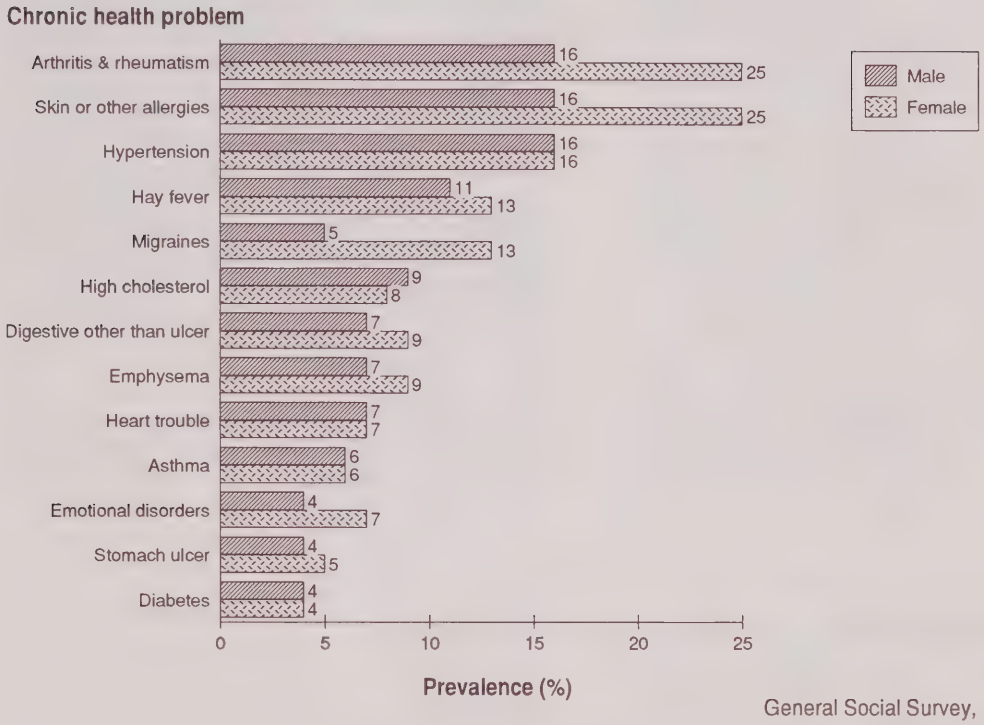
The prevalence of at least one chronic condition ranges from a high of 67% in Nova Scotia to a low of 59% in Alberta, but the prevalence rates recorded by most provinces are within a few percentage points of the national average of 63% (Table 2-2). The major exceptions to this generalization are the rates of emotional disorders in Quebec and Ontario. On a national basis, 5% of the Canadian population aged 15 and over report suffering from ongoing emotional trouble. The

TEXT TABLE 2-A
Prevalence of selected chronic conditions, age 15+, Canada, 1991

Condition	Proportion affected (Percent)	Number affected
At least one	63	13,168,000
Skin or other allergies	21	4,340,000
Arthritis & rheumatism	21	4,335,000
Hypertension	16	3,311,000
Hay fever	12	2,528,000
Migraine headaches	9	1,950,000

General Social Survey, 1991

FIGURE 2-A
Prevalence (%) of health problems by sex, age 15+, Canada, 1991



General Social Survey, 1991

prevalence of emotional disorders in Quebec is much higher (11%), whereas it is dramatically lower in Ontario (2%).

The prevalence of hypertension also varies by province, albeit in a less dramatic fashion. Nationally, 16% of the population aged 15 and over reports suffering from hypertension. This figure is considerably higher in Nova Scotia (21%) and Prince Edward Island (22%). The elevated figure for Nova Scotia is primarily due to an exceptionally high prevalence of hypertension among Nova Scotian women (24% compared to the national norm for women of 16%).

Male–female differences in the prevalence of health problems in general are highest in Manitoba, where considerably more women than men report health problems (68% vs. 53%), and lowest in Prince Edward Island, where an equal percentage of the male and female populations report health problems (61%). In other provinces, the sex difference in the prevalence of health problems is within a few percentage points of the national norm (Table 2-2).

The extent of sex differences in the prevalence of specific conditions varies substantially between provinces. For example, the prevalence of allergies in men and women differs by 19 percentage points in New Brunswick (33% in women; 14% in men) but by only five percentage points in each of Newfoundland (20% in women; 15% in men) and Prince Edward Island (26% women, 21% men). In comparison with the rest of the country, sex differences in the prevalence of most conditions are smallest in Prince Edward Island. For example, the substantial difference between women and men in the prevalence of arthritis in the national population (25% in women; 16% in men) is absent in Prince Edward Island (23% in women; 24% in men).

Chronic conditions and income adequacy

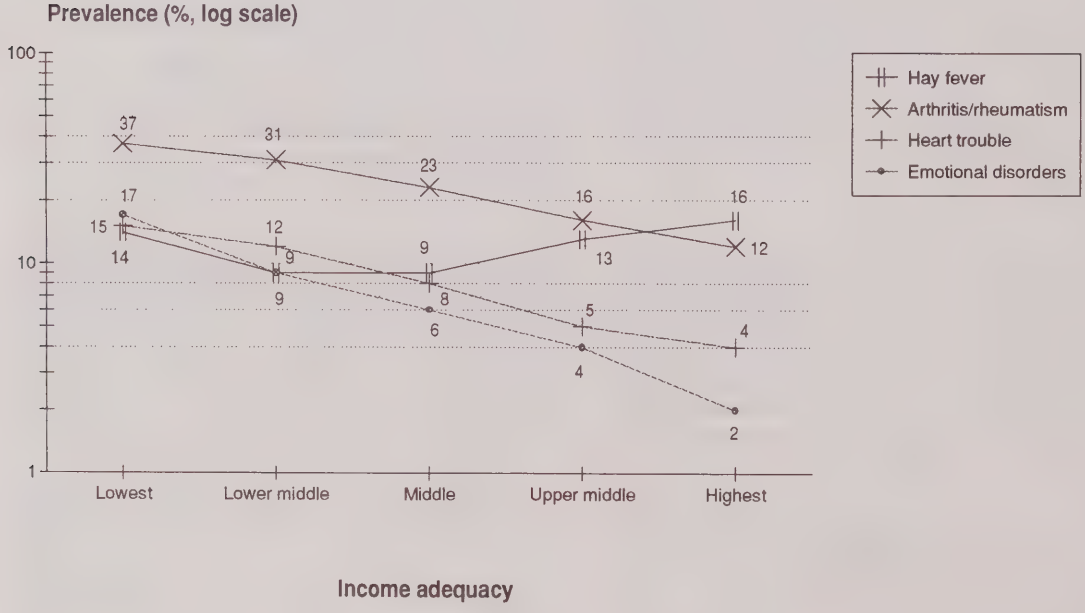
The prevalence of many chronic conditions appears to be linked to the economic status of the individual. Affluent Canadians are less likely than those at the opposite end of the income adequacy scale to report all but one of the surveyed chronic conditions (hay fever) (Table 2-3). For some conditions, the difference in prevalence is dramatic (Figure 2-B). Canadians with the lowest income adequacy are more than three times as likely to report arthritis as are Canadians with the highest (37% vs. 12%). Equally striking is the concentration of emotional disorders among the least affluent Canadians. Canadians in the lowest income adequacy group are about three times as likely to report an emotional disorder as are those in the middle group (17% vs. 6%) and almost nine times as likely as the highest (2 %). In contrast, hay fever becomes more common with increased income adequacy, starting with individuals with lower middle income adequacy. The highest income group reports the highest prevalence of hay fever, unlike any other condition.

With one exception, the relationship of chronic conditions to income adequacy is stronger for women than for men. For example, the prevalence of heart trouble is two and one-half times as high among men in the lowest group as among men in the highest group (10% vs. 4%), but almost six times as high among women in the lowest group as among women in the highest (17% vs. 3%) (Table 2-3). The only exception to this trend is the prevalence of stomach ulcers in the Canadian population, which declines more substantially with income adequacy among men than among women.

2.3.2 Pain Severity

Twenty percent of Canadian adults aged 15 and over — over 4 million people — report experiencing trouble due to pain or discomfort. About half of

FIGURE 2-B
Prevalence (%) of health problems by income adequacy, age 15+, Canada, 1991



General Social Survey, 1991

these individuals (9% overall) describe the severity of their pain as moderate. The other half of this group is divided between individuals who report mild pain (6%) and individuals whose experience of pain is severe (4%). Eighty percent of Canadian adults report no trouble with pain or discomfort (Table 2-4).

Pain severity, age, and sex

The percentage of Canadians reporting any level of pain increases with age, from a low of 11% at ages 15 to 24 to a high of 35% among those 75 years of age and older. This trend is true for all levels of pain severity but is stronger for moderate and severe pain than for mild pain (Table 2-4).

For most age groups, Canadian women are more likely than Canadian men to report pain, and they are likely to describe it as more severe. These sex differences in pain prevalence and severity are most apparent among older Canadians. Between the ages of 25 and 44, pain troubles an equal proportion of men (15%) and women (16%). At 45 years of age and over, more women than men report pain, and this male–female difference increases with age. Among Canadians 65 to 74 years old, 1.4 times as many women as men experience some degree of pain (33% vs. 23%). The prevalence of mild pain does not vary consistently between sexes, but more women than men 45 years of age and over report moderate and severe pain (Table 2-4).

Pain severity and income adequacy

There is an inverse relationship between income adequacy and reports of pain of moderate and severe intensity (Table 2-5). These trends are generally true for both men and women, but among Canadians with the lowest income adequacy, considerably more women than men report moderate pain (19% vs. 13%). As a result, the total difference in prevalence of moderate pain between the lowest and highest income groups for Canadian women (13 percentage points) is almost double the corresponding difference among men (seven percentage points).

2.3.3 Sleep Difficulties

Approximately one-quarter of Canadians report trouble going to sleep or remaining asleep, and this difficulty is related to sex and age (Text Table 2-B). The prevalence of sleep troubles increases with age, from one-fifth of the 15 to 24 year old population to more than one-third of the population 75 years of age and older. Overall, more women than men report difficulty sleeping (28% vs. 19%). This sex difference is especially apparent among Canadians over 44 years of age.

The prevalence of sleeping difficulties is strongly related to income adequacy. The percentage of Canadians in the lowest income group that have trouble falling or staying asleep is almost double the national average (47% vs. 24%) and more than two and one-half times the percentage of Canadians in the highest group (18%) (Text Table 2-B).

There also appears to be a relationship between exercise and quality of sleep. The 1991 GSS data suggest that sedentary Canadians are the most likely to report sleep difficulties, and active Canadians the least. The sleep problems of moderately active persons fall between those of the most and least active, and this is true for every age group except the youngest and the oldest (Figure 2-C).

2.3.4 Health Satisfaction and Health Problems

Despite the prevalence of health problems chronicled above, most Canadians aged 15 and over are either very satisfied (55%) or somewhat satisfied (29%) with their health. Dissatisfaction with the state of their health is expressed by only 12% of the population (Text Table 2-C).

Nevertheless, there is a strong relationship between the presence of health problems and dissatisfaction with one's health. Canadians who have no problems are much more likely than those who do to be very satisfied with their health (71% vs. 47%), whereas those with health problems are four times more likely than those who have no problems to express dissatisfaction with their health (16% vs. 4%). Aside from women expressing more dissatisfaction with their health when health problems exist, there is little difference between men and women in the relationship between health problems and satisfaction with health (data not shown).

2.4 DISCUSSION

2.4.1 Changes Since 1978

Most of the chronic conditions reported in Table 2-1 were also probed in the 1978-79 Canada Health Survey[1] using reasonably comparable questions. With

TEXT TABLE 2-B
Prevalence of sleep difficulties by sex then age group, then income adequacy, age 15+, Canada, 1991

Sex, then age group then income adequacy	Prevalence of sleep difficulties (Percent)
Total population 15+	
Both sexes	24
Male	19
Female	28
Age group	
15–24	
Both sexes	20
Male	16
Female	23
25–44	
Both sexes	21
Male	19
Female	23
45–64	
Both sexes	26
Male	19
Female	32
65–74	
Both sexes	30
Male	22
Female	37
75+	
Both sexes	35
Male	28
Female	40
Income adequacy	
Lowest	47
Lower middle	32
Middle	25
Upper middle	21
Highest	18

General Social Survey, 1991

the single exception of emotional disorders, the prevalence of every condition increased between 1978 and 1991 (Figure 2-D). For some of these conditions — notably allergies, arthritis and rheumatism, hypertension, migraines, digestive disorders other than ulcers, emphysema, and asthma, the increases were pronounced. These rates are not age-standardized and thus reflect, in part, the aging of the population. Whether due to aging or other changes within the population, these increases represent potential new demands on the health care system.

These demands are "potential" because the data may reflect changes other than an increasing prevalence of chronic conditions. For example, the near doubling in reported hypertension may reflect more extensive detection, not more disease. Other increases in Figure 2-D may be due to a more knowledgeable or health-conscious population that is more inclined to report health problems. The fact that the data are based on self-report does not mean that they should be dismissed, however, as these perceptions are likely to be translated into demands on the health care system.

2.4.2 Other Observations

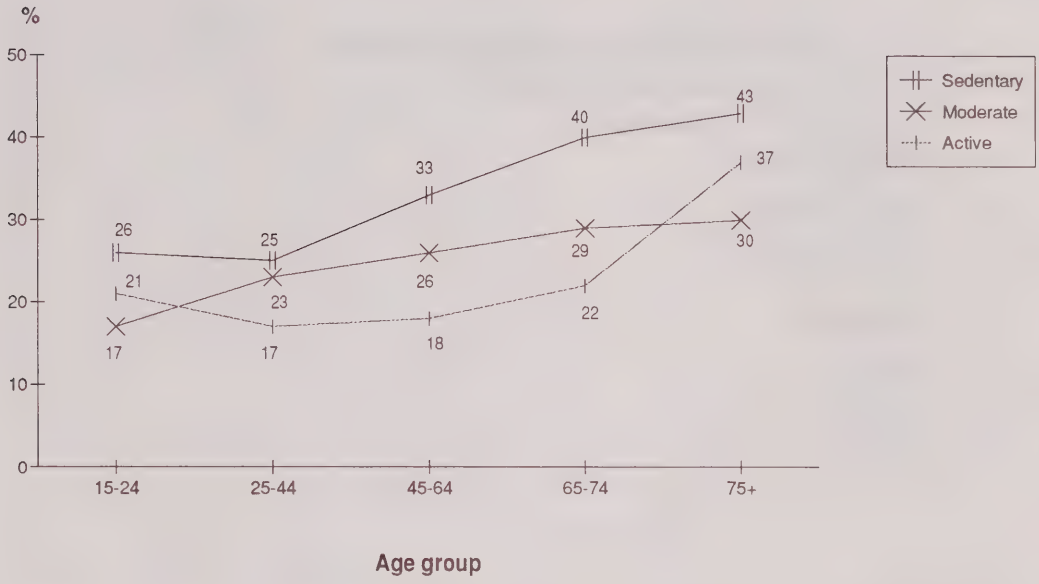
Considering for the moment just the 1991 data, it is important to remember their self-report nature when making intergroup comparisons in the prevalences of certain chronic conditions. For example, the large differences in the prevalences of emotional disorders between Ontario and Quebec may be due to a greater willingness to report these problems in Quebec, which in turn may be due to the extensive surveying on mental health by Santé

TEXT TABLE 2-C
Satisfaction with own health, by prevalence of chronic health problems, age 15+, Canada, 1991

Satisfaction with health	Total	No problems	1+ health problems
		(Percent)	
Total	100	100	100
Very satisfied	55	71	47
Somewhat satisfied	29	22	33
Dissatisfied	12	4	16
No opinion	4	4	4

General Social Survey, 1991

FIGURE 2-C
Trouble sleeping by age group and leisure-time physical activity, age 15+, Canada, 1991



General Social Survey, 1991

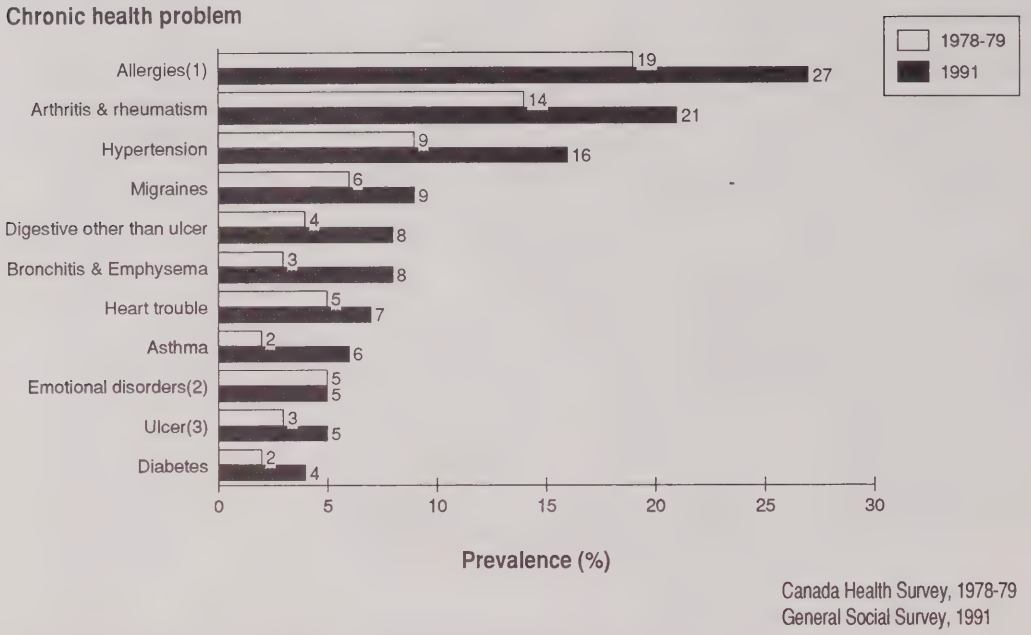
Québec[2] four years prior to the 1991 GSS. If this is so, the Ontario Health Survey focus on mental health[3] at approximately the same time as the 1991 GSS may complicate future comparisons with the 1991 GSS. Similarly, the higher prevalence of hypertension in Nova Scotia and Prince Edward Island may be partly due to more diligent detection in these two provinces, and there is some evidence supporting this conclusion from other surveys. For example, Nova Scotian women had among the highest rates of recent testing for high blood pressure in 1990.[4] It should be recognized that interprovincial comparisons depend upon smaller samples, and thus greater imprecision of estimates. This is particularly true of relatively rare conditions such as asthma, diabetes, stomach ulcers, and emotional disorders.

The 1991 GSS prevalence of hypertension (16%) is the same as that obtained by the 1990 Health Promotion Survey[4] and only one percentage point above the prevalence of high diastolic pressure (>90 mm) obtained *through measurement* by the Canadian Heart Health Surveys.[5] However, the 1991 GSS prevalence is somewhat lower than the prevalence of 20% for either high diastolic or high systolic pressure obtained by measurement.

Eight percent of Canadian adults report current high blood cholesterol (Table 2-1). This finding is considerably lower than the proportion of 46% observed by the Canadian Heart Health Surveys on the basis of blood analysis[6] and deemed to be above the desirable level (at least 5.2 mmol/L), or even the value of 17% in the high-risk category (at least 6.2 mmol/L). This discrepancy in findings illustrates the limitation of self-report methods for assessing conditions which are asymptomatic and rarely screened.

The GSS is one of the few to provide detailed age breakdowns for those aged 65 and over. It is instructive that, on many measures of health problems, there is little difference between Canadians aged 65 to 74 and those aged 75 and older. This is probably evidence of a "healthy survivor" effect — that is, the increasing probability that only the healthy will live to an advanced age. This is particularly true of older Canadians still living in

FIGURE 2-D
Prevalence (%) of health problems, age 15+, Canada, 1978-79 and 1991



Canada Health Survey, 1978-79
General Social Survey, 1991

(1) Canada Health Survey - refers to grouping of "hay fever and other allergies" and "skin disorders" while the General Social Survey refers to grouping of "hay fever" and "skin or other allergies".
(2) Canada Health Survey - refers to "mental disorders".
(3) Canada Health Survey - refers to "gastric & duodenal ulcers".

households and thus eligible to participate in a survey such as the GSS.

The relationships reported here between health problems and economic well-being are consistent with the well-established trend of greater death and disability among the poor[7] and their greater exposure to health risks,[8] despite access to health care. The present findings reveal for the first time that pain and sleep difficulties are part of the health burdens suffered by lower income groups.

Another new finding is the relationship between exercise and quality of sleep. This should not be taken as evidence of a causal relationship, as the data are, of course, strictly cross-sectional. The relationship may be due to a third factor such as social status, as this is associated with both sleep problems (Text Table 2-B) and exercise (see Chapter 10). Further analysis could examine and perhaps rule out this possibility, just as Figure 2-C reveals that the exercise–sleep relationship is independent of age.

2.4.3 Methodological Considerations

In addition to the cautions regarding data interpretation discussed above, there are other caveats to bear in mind. Already noted under **Methods** is the differing structure of the questions on conditions, yielding lifetime prevalence rates for diabetes, hypertension, and heart trouble and point prevalence for all others.

Differences in collection methodology and presentation between the CHS of 1978-79 and the GSS of 1991 also have a bearing on some comparisons in Figure 2-D. In particular, "hay fever" was presented overlapping with other allergies in the 1978 analysis, making it necessary to combine "hay fever" with "skin or other allergies" in 1991 for the sake of comparison. It is reasonable to

suppose that separate questions, combined, would yield higher rates than a single undifferentiated question. Similarly, the 1991 question on emphysema also specified "chronic bronchitis, persistent cough or shortness of breath"; these last two signs were not specified in 1978. In addition to these specific changes, there is the fact that much of the health problem data from the Canada Health Survey were obtained by proxy, whereas this was only rarely true of the 1991 GSS (see Chapter 1). This, too, might have the effect of elevating the reports of some conditions in the 1991 GSS. Finally, offsetting these factors somewhat, it should be noted that Canada Health Survey estimates were presented on a condition level basis while those of the GSS are on a person level basis. However, it is estimated that this difference will have very little impact on the magnitude of the prevalence estimates.

Even though methodological differences may explain some of the increases between 1978 and 1991, it seems fair to conclude that the increases in the prevalences of chronic conditions reported in this chapter are largely genuine.

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TABLE 2-1
Prevalence of selected health problems by sex and age group, age 15+, Canada, 1991

Sex and age group	Total population 15+		Any health problem		Hyper-tension		Heart trouble		Diabetes		Arthri-tis / rheuma-tism		Asthma		Emphyse-ma, etc.		Hay fever		Skin or other allergies		Stomach ulcer		Other digestive problems		Recurring migraines		High blood cholesterol		Any emotional disorders	
	Health problem[1]																													
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)																													
Both sexes																														
Population 15+	20,981	100	13,168	63	3,311	16	1,437	7	740	4	4,335	21	1,238	6	1,671	8	2,528	12	4,340	21	969	5	1,634	8	1,950	9	1,759	8	1,114	5
15-24 years	3,793	100	1,878	50	119	3	70	2	--	--	141	4	357	9	213	6	585	15	916	24	88	2	117	3	330	9	80	2	107	3
25-44 years	9,005	100	4,932	55	860	10	250	3	133	1	955	11	427	5	492	5	1,186	13	1,949	22	433	5	573	6	916	10	457	5	358	4
45-64 years	5,275	100	3,866	73	1,271	24	411	8	289	5	1,685	32	252	5	440	8	523	10	947	18	255	5	538	10	524	10	834	16	388	7
65+ years	2,908	100	2,491	86	1,061	36	705	24	293	10	1,554	53	201	7	527	18	234	8	528	18	192	7	406	14	180	6	387	13	262	9
65-74 years	1,824	100	1,540	84	672	37	382	21	178	10	923	51	129	7	308	17	155	8	352	19	112	6	238	13	115	6	285	16	162	9
75+ years	1,084	100	952	88	388	36	323	30	115	11	631	58	72	7	219	20	79	7	176	16	80	7	168	15	65	6	102	9	99	9
Male																														
Population 15+	10,266	100	6,055	59	1,605	16	683	7	365	4	1,684	16	608	6	737	7	1,180	11	1,639	16	449	4	681	7	517	5	879	9	395	4
15-24 years	1,935	100	901	47	67	3	--	--	--	--	35	2	196	10	106	5	274	14	399	21	38	2	57	3	93	5	--	--	39	2
25-44 years	4,476	100	2,287	51	516	12	125	3	63	1	420	9	213	5	219	5	575	13	765	17	230	5	259	6	228	5	268	6	146	3
45-64 years	2,611	100	1,834	70	641	25	205	8	155	6	663	25	116	4	181	7	234	9	300	11	83	3	220	8	139	5	454	17	137	5
65+ years	1,245	100	1,034	83	381	31	309	25	141	11	567	46	83	7	231	19	97	8	174	14	98	8	145	12	57	5	120	10	74	6
65-74 years	796	100	651	82	260	33	175	22	82	10	347	44	54	7	147	19	62	8	117	15	52	7	79	10	35	4	81	10	51	6
75+ years	448	100	383	85	121	27	134	30	58	13	220	49	29	6	84	19	35	8	57	13	46	10	66	15	--	--	38	9	--	--
Female																														
Population 15+	10,715	100	7,113	66	1,705	16	754	7	375	4	2,651	25	629	6	934	9	1,349	13	2,701	25	519	5	953	9	1,433	13	880	8	719	7
15-24 years	1,857	100	978	53	52	3	26	1	--	--	106	6	161	9	107	6	311	17	517	28	50	3	59	3	237	13	43	2	68	4
25-44 years	4,530	100	2,646	58	344	8	125	3	70	2	535	12	214	5	273	6	611	13	1,183	26	203	4	315	7	688	15	189	4	212	5
45-64 years	2,664	100	2,032	76	630	24	206	8	133	5	1,022	38	136	5	259	10	290	11	647	24	172	6	318	12	385	14	380	14	251	9
65+ years	1,664	100	1,457	88	679	41	397	24	152	9	987	59	118	7	295	18	137	8	354	21	95	6	261	16	123	7	268	16	188	11
65-74 years	1,028	100	888	86	412	40	207	20	96	9	576	56	75	7	161	16	93	9	234	23	60	6	159	15	79	8	204	20	112	11
75+ years	636	100	569	89	267	42	189	30	56	9	411	65	43	7	135	21	44	7	119	19	34	5	102	16	44	7	64	10	76	12

General Social Survey, 1991

(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of affirmative responses shown.

TABLE 2-2
Prevalence of selected health problems by sex and province, age 15+, Canada, 1991

Sex and province	Total population 15+		Health problem(1)													
			Any health problem		Hyper-tension		Heart trouble		Diabetes		Arthritis / rheumatism		Asthma		Emphysema, etc.	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)															
Both sexes																
Canada	20,981	100	13,168	63	3,311	16	1,437	7	740	4	4,335	21	1,238	6	1,671	8
Atlantic	1,806	100	1,161	64	339	19	153	8	56	3	434	24	88	5	187	10
Nfld.	438	100	261	60	84	19	34	8	18	4	86	20	21	5	35	8
P.E.I.	98	100	60	61	21	22	8	8	3	3	23	23	6	6	8	8
N.S.	704	100	473	67	147	21	64	9	26	4	173	25	31	4	80	11
N.B.	566	100	368	65	88	15	47	8	--	--	152	27	29	5	64	11
Quebec	5,384	100	3,269	61	808	15	360	7	182	3	970	18	357	7	515	10
Ontario	7,778	100	5,030	65	1,139	15	547	7	238	3	1,633	21	476	6	530	7
Prairies	3,482	100	2,088	60	576	17	197	6	109	3	747	21	194	6	286	8
Man.	839	100	512	61	141	17	41	5	25	3	203	24	39	5	73	9
Sask.	742	100	458	62	121	16	56	8	22	3	191	26	35	5	63	8
Alta.	1,901	100	1,118	59	314	17	101	5	62	3	353	19	120	6	150	8
B.C.	2,532	100	1,619	64	448	18	179	7	155	6	550	22	124	5	154	6
Male																
Canada	10,266	100	6,055	59	1,605	16	683	7	365	4	1,684	16	608	6	737	7
Atlantic	885	100	533	60	151	17	74	8	22	2	187	21	40	5	85	10
Nfld.	217	100	125	58	41	19	17	8	--	--	35	16	12	6	18	8
P.E.I.	48	100	29	61	10	21	4	9	--	--	12	24	--	--	4	7
N.S.	343	100	213	62	60	18	28	8	14	4	74	22	--	--	37	11
N.B.	277	100	165	60	39	14	24	8	--	--	67	24	12	4	27	10
Quebec	2,617	100	1,483	57	365	14	131	5	89	3	401	15	167	6	244	9
Ontario	3,796	100	2,309	61	589	16	285	7	121	3	566	15	254	7	207	5
Prairies	1,725	100	958	56	285	17	97	6	57	3	299	17	80	5	128	7
Man.	411	100	220	53	56	14	20	5	12	3	80	19	18	4	33	8
Sask.	367	100	216	59	61	17	25	7	10	3	79	22	15	4	31	8
Alta.	948	100	522	55	168	18	52	5	35	4	139	15	47	5	64	7
B.C.	1,243	100	772	62	215	17	97	8	75	6	231	19	67	5	73	6
Female																
Canada	10,715	100	7,113	66	1,705	16	754	7	375	4	2,651	25	629	6	934	9
Atlantic	921	100	629	68	188	20	79	9	34	4	246	27	47	5	101	11
Nfld.	221	100	136	62	42	19	16	7	15	7	51	23	--	--	17	8
P.E.I.	50	100	31	61	11	22	4	7	--	--	11	23	--	--	4	9
N.S.	361	100	259	72	86	24	36	10	12	3	99	27	18	5	43	12
N.B.	289	100	203	70	49	17	23	8	--	--	85	29	16	6	37	13
Quebec	2,767	100	1,786	65	442	16	229	8	92	3	570	21	190	7	271	10
Ontario	3,982	100	2,721	68	550	14	263	7	118	3	1,067	27	222	6	323	8
Prairies	1,756	100	1,130	64	292	17	101	6	52	3	448	26	114	6	158	9
Man.	428	100	293	68	86	20	21	5	13	3	123	29	21	5	40	9
Sask.	375	100	242	64	60	16	31	8	12	3	111	30	19	5	32	8
Alta.	953	100	596	62	146	15	49	5	27	3	214	22	73	8	87	9
B.C.	1,288	100	848	66	233	18	82	6	79	6	319	25	57	4	81	6

Continued on next page

TABLE 2-2
Prevalence of selected health problems by sex and province, age 15+, Canada, 1991 - concluded

Sex and province	Total population 15+		Health problem(1)															
			Any health problem		Hay fever		Skin or other allergies		Stomach ulcer		Other digestive problems		Recurring migraines		High blood cholesterol		Any emotional disorders	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)																	
Both sexes																		
Canada	20,981	100	13,168	63	2,528	12	4,340	21	969	5	1,634	8	1,950	9	1,759	8	1,114	5
Atlantic	1,806	100	1,161	64	198	11	396	22	99	5	173	10	177	10	127	7	112	6
Nfld.	438	100	261	60	28	6	77	18	25	6	28	6	50	11	34	8	26	6
P.E.I.	98	100	60	61	12	12	23	24	5	5	6	6	6	6	9	9	5	6
N.S.	704	100	473	67	98	14	163	23	38	5	70	10	62	9	49	7	52	7
N.B.	566	100	368	65	59	10	133	23	31	6	70	12	58	10	36	6	29	5
Quebec	5,384	100	3,269	61	650	12	1,013	19	249	5	453	8	575	11	499	9	601	11
Ontario	7,778	100	5,030	65	985	13	1,819	23	342	4	594	8	720	9	689	9	179	2
Prairies	3,482	100	2,088	60	349	10	679	19	169	5	214	6	293	8	276	8	144	4
Man.	839	100	512	61	80	10	176	21	38	4	59	7	76	9	62	7	39	5
Sask.	742	100	458	62	73	10	147	20	33	4	47	6	55	7	62	8	37	5
Alta.	1,901	100	1,118	59	196	10	356	19	98	5	108	6	162	9	152	8	67	4
B.C.	2,532	100	1,619	64	347	14	433	17	110	4	201	8	185	7	167	7	78	3
Male																		
Canada	10,266	100	6,055	59	1,180	11	1,639	16	449	4	681	7	517	5	879	9	395	4
Atlantic	885	100	533	60	91	10	142	16	53	6	68	8	59	7	66	7	35	4
Nfld.	217	100	125	58	15	7	32	15	16	7	10	5	20	9	19	9	--	--
P.E.I.	48	100	29	61	6	12	10	21	--	--	--	--	--	--	--	--	--	--
N.S.	343	100	213	62	47	14	63	18	17	5	26	7	23	7	23	7	13	4
N.B.	277	100	165	60	23	8	38	14	18	6	30	11	15	5	19	7	--	--
Quebec	2,617	100	1,483	57	335	13	395	15	93	4	188	7	132	5	242	9	208	8
Ontario	3,796	100	2,309	61	435	11	695	18	158	4	245	6	213	6	361	10	58	2
Prairies	1,725	100	958	56	148	9	246	14	81	5	87	5	70	4	128	7	64	4
Man.	411	100	220	53	39	9	59	14	17	4	26	6	17	4	21	5	17	4
Sask.	367	100	216	59	33	9	54	15	--	--	19	5	17	5	27	7	16	4
Alta.	948	100	522	55	76	8	132	14	53	6	43	5	36	4	80	8	30	3
B.C.	1,243	100	772	62	171	14	160	13	64	5	92	7	43	3	83	7	31	2
Female																		
Canada	10,715	100	7,113	66	1,349	13	2,701	25	519	5	953	9	1,433	13	880	8	719	7
Atlantic	921	100	629	68	107	12	253	28	46	5	104	11	118	13	61	7	76	8
Nfld.	221	100	136	62	14	6	45	20	9	4	17	8	30	14	15	7	17	8
P.E.I.	50	100	31	61	6	12	13	26	--	--	--	--	--	--	4	9	--	--
N.S.	361	100	259	72	51	14	100	28	21	6	44	12	40	11	25	7	39	11
N.B.	289	100	203	70	36	12	95	33	13	5	40	14	44	15	17	6	18	6
Quebec	2,767	100	1,786	65	315	11	618	22	156	6	265	10	443	16	258	9	393	14
Ontario	3,982	100	2,721	68	550	14	1,124	28	184	5	348	9	507	13	329	8	122	3
Prairies	1,756	100	1,130	64	201	11	433	25	87	5	127	7	223	13	148	8	80	5
Man.	428	100	293	68	42	10	117	27	20	5	33	8	59	14	41	10	22	5
Sask.	375	100	242	64	39	11	93	25	21	6	29	8	38	10	35	9	21	6
Alta.	953	100	596	62	120	13	223	23	46	5	65	7	126	13	72	8	37	4
B.C.	1,288	100	848	66	176	14	273	21	46	4	109	8	142	11	84	7	47	4

General Social Survey, 1991

(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of affirmative responses shown.

TABLE 2-3
Prevalence of selected health problems by sex and income adequacy, age 15+, Canada, 1991

Sex and income adequacy	Total population 15+		Any health problem		Hyper-tension		Heart trouble		Diabetes		Arthri-tis / rheuma-tism		Asthma		Emphyse-ma, etc.		Hay fever		Skin or other allergies		Stomach ulcer		Other digestive problems		Recurring migraines		High blood cholesterol		Any emotional disorders	
	Health problem(1)																													
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)																													
Both sexes																														
Total	20,981	100	13,168	63	3,311	16	1,437	7	740	4	4,335	21	1,238	6	1,671	8	2,528	12	4,340	21	969	5	1,634	8	1,950	9	1,759	8	1,114	5
Lowest	799	100	581	73	176	22	118	15	35	4	297	37	65	8	149	19	109	14	191	24	70	9	96	12	126	16	74	9	133	17
Lower middle	1,633	100	1,157	71	355	22	202	12	117	7	510	31	124	8	243	15	147	9	343	21	117	7	177	11	190	12	188	12	149	9
Middle	4,766	100	2,993	63	803	17	374	8	151	3	1,099	23	224	5	419	9	444	9	904	19	263	6	484	10	475	10	382	8	290	6
Upper middle	5,743	100	3,428	60	816	14	275	5	155	3	935	16	287	5	335	6	766	13	1,238	22	231	4	391	7	511	9	468	8	229	4
Highest	2,171	100	1,331	61	308	14	77	4	71	3	271	12	138	6	80	4	344	16	395	18	48	2	122	6	146	7	199	9	51	2
Not stated	5,869	100	3,678	63	852	15	391	7	211	4	1,224	21	399	7	447	8	717	12	1,268	22	240	4	364	6	503	9	448	8	261	4
Male																														
Total	10,266	100	6,055	59	1,605	16	683	7	365	4	1,684	16	608	6	737	7	1,180	11	1,639	16	449	4	681	7	517	5	879	9	395	4
Lowest	261	100	158	61	50	19	26	10	--	--	82	31	--	--	40	15	44	17	44	17	25	10	26	10	--	--	--	--	26	10
Lower middle	686	100	480	70	127	19	91	13	64	9	196	29	70	10	119	17	63	9	114	17	53	8	79	11	44	6	89	13	41	6
Middle	2,264	100	1,332	59	368	16	183	8	81	4	464	21	89	4	186	8	197	9	320	14	134	6	195	9	131	6	180	8	117	5
Upper middle	3,067	100	1,703	56	480	16	152	5	86	3	397	13	170	6	161	5	377	12	502	16	103	3	173	6	137	4	272	9	101	3
Highest	1,340	100	835	62	236	18	52	4	43	3	140	10	83	6	46	3	220	16	189	14	--	--	86	6	66	5	138	10	--	--
Not stated	2,648	100	1,547	58	344	13	179	7	86	3	405	15	182	7	186	7	280	11	470	18	104	4	123	5	117	4	185	7	86	3
Female																														
Total	10,715	100	7,113	66	1,705	16	754	7	375	4	2,651	25	629	6	934	9	1,349	13	2,701	25	519	5	953	9	1,433	13	880	8	719	7
Lowest	538	100	423	79	126	23	92	17	29	5	215	40	51	9	109	20	66	12	147	27	44	8	70	13	104	19	60	11	107	20
Lower middle	947	100	677	72	228	24	110	12	54	6	313	33	54	6	124	13	84	9	230	24	64	7	98	10	146	15	99	10	108	11
Middle	2,503	100	1,661	66	434	17	191	8	70	3	635	25	135	5	233	9	248	10	584	23	129	5	289	12	344	14	202	8	173	7
Upper middle	2,676	100	1,725	64	337	13	123	5	69	3	538	20	117	4	174	6	389	15	736	28	127	5	218	8	374	14	196	7	128	5
Highest	831	100	496	60	72	9	26	3	--	--	131	16	55	7	34	4	125	15	206	25	--	--	36	4	79	10	61	7	--	--
Not stated	3,221	100	2,131	66	509	16	212	7	125	4	819	25	218	7	261	8	438	14	798	25	136	4	240	7	386	12	263	8	175	5

(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of affirmative responses shown.

General Social Survey, 1991

TABLE 2-4
Description of usual intensity of pain by sex and age group, age 15+, Canada, 1991

Sex and age group	Description of usual intensity of pain															
	Total population 15+		No pain		With pain										Not stated	
					Total with pain		Mild		Moderate		Severe		Intensity/ n.s.			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)															
Both sexes																
Population 15+	20,981	100	16,834	80	4,092	20	1,261	6	1,957	9	849	4	--	--	56	--
15-24 years	3,793	100	3,357	89	433	11	174	5	196	5	56	1	--	--	--	--
25-44 years	9,005	100	7,574	84	1,428	16	521	6	642	7	253	3	--	--	--	--
45-64 years	5,275	100	3,932	75	1,330	25	341	6	662	13	323	6	--	--	--	--
65+ years	2,908	100	1,972	68	902	31	224	8	457	16	217	7	--	--	35	1
65-74 years	1,824	100	1,281	70	522	29	136	7	265	15	121	7	--	--	--	--
75+ years	1,084	100	691	64	379	35	89	8	192	18	96	9	--	--	--	--
Male																
Population 15+	10,266	100	8,489	83	1,751	17	615	6	798	8	326	3	--	--	26	--
15-24 years	1,935	100	1,767	91	167	9	87	4	74	4	--	--	--	--	--	--
25-44 years	4,476	100	3,780	84	693	15	264	6	306	7	119	3	--	--	--	--
45-64 years	2,611	100	2,034	78	569	22	175	7	263	10	131	5	--	--	--	--
65+ years	1,245	100	908	73	321	26	89	7	155	12	74	6	--	--	--	--
65-74 years	796	100	605	76	184	23	51	6	89	11	43	5	--	--	--	--
75+ years	448	100	304	68	137	31	38	8	67	15	31	7	--	--	--	--
Female																
Population 15+	10,715	100	8,345	78	2,340	22	646	6	1,159	11	523	5	--	--	29	--
15-24 years	1,857	100	1,590	86	265	14	88	5	123	7	55	3	--	--	--	--
25-44 years	4,530	100	3,794	84	735	16	257	6	336	7	133	3	--	--	--	--
45-64 years	2,664	100	1,898	71	760	29	166	6	399	15	192	7	--	--	--	--
65+ years	1,664	100	1,063	64	580	35	135	8	301	18	143	9	--	--	--	--
65-74 years	1,028	100	676	66	338	33	84	8	176	17	77	8	--	--	--	--
75+ years	636	100	387	61	242	38	51	8	125	20	66	10	--	--	--	--

General Social Survey, 1991

TABLE 2-5
Description of usual intensity of pain, by sex and income adequacy, age 15+, Canada, 1991

Sex and income adequacy	Description of usual intensity of pain															
	Total population 15+		No pain		With pain										Not stated	
					Total with pain		Mild		Moderate		Severe		Intensity/ n.s.			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	No. in thousands															
Both sexes																
Total	20,981	100	16,834	80	4,092	20	1,261	6	1,957	9	849	4	--	--	56	--
Lowest	799	100	520	65	278	35	39	5	137	17	102	13	--	--	--	--
Lower middle	1,633	100	1,183	72	442	27	107	7	203	12	131	8	--	--	--	--
Middle	4,766	100	3,696	78	1,070	22	312	7	515	11	240	5	--	--	--	--
Upper middle	5,743	100	4,702	82	1,041	18	379	7	518	9	138	2	--	--	--	--
Highest	2,171	100	1,856	85	315	15	114	5	134	6	64	3	--	--	--	--
Not stated	5,869	100	4,877	83	945	16	311	5	450	8	175	3	--	--	47	1
Male																
Total	10,266	100	8,489	83	1,751	17	615	6	798	8	326	3	--	--	26	--
Lowest	261	100	182	70	79	30	--	--	35	13	33	13	--	--	--	--
Lower middle	686	100	510	74	171	25	39	6	89	13	40	6	--	--	--	--
Middle	2,264	100	1,767	78	497	22	151	7	234	10	110	5	--	--	--	--
Upper middle	3,067	100	2,585	84	482	16	212	7	211	7	58	2	--	--	--	--
Highest	1,340	100	1,141	85	199	15	81	6	85	6	--	--	--	--	--	--
Not stated	2,648	100	2,304	87	324	12	121	5	143	5	55	2	--	--	--	--
Female																
Total	10,715	100	8,345	78	2,340	22	646	6	1,159	11	523	5	--	--	29	--
Lowest	538	100	338	63	199	37	28	5	102	19	68	13	--	--	--	--
Lower middle	947	100	673	71	272	29	68	7	114	12	90	10	--	--	--	--
Middle	2,503	100	1,929	77	573	23	161	6	281	11	130	5	--	--	--	--
Upper middle	2,676	100	2,116	79	559	21	167	6	307	11	80	3	--	--	--	--
Highest	831	100	714	86	116	14	33	4	49	6	34	4	--	--	--	--
Not stated	3,221	100	2,573	80	621	19	190	6	307	10	120	4	--	--	26	1

General Social Survey, 1991

CHAPTER 3

HEALTH AND FUNCTION

3.1 HIGHLIGHTS

- Over 2.3 million Canadian adults (11% of those aged 15 and over) reported that a long-term health problem limits the kind or amount of activity that they can do at home, work, or school. This compares with 14% in 1978-79 and 12% in 1985. Back problems were the single most important cause underlying long-term activity limitations in 1991.

- Less than one-third of Canadian adults (29%) report no reduced function. The most common functional problems reported are: visual (50%), cognitive (26%), and emotional (21%). Equal proportions have one attribute (35% overall) or two or more attributes (34%) affected.

- The normal activity of Canadians was affected by health problems for an average of 0.64 days during the two weeks prior to the survey. This is a decline from an average of 0.72 days in 1978-79 and 0.74 days in 1985. In 1991, health affected the work performance of employed Canadians for an average of 0.24 days in the prior two weeks.

- Over half of all adult Canadians (55%) describe themselves as very satisfied with their health status, while only 3% are very dissatisfied.

- There is a consistent relationship between these indicators of health status and income adequacy. As income increases, there is a reduced prevalence of functional limitations (all but speech problems), activity limitation, and disability days and an increased likelihood of satisfaction with health.

- There are wide variations between provinces, sometimes even provinces within the same region, in many of these health status indicators.

3.2 METHODS

This chapter describes findings related to short- and long-term disabilities and satisfaction with one's own health. While many of the relevant questions were new in the 1991 GSS (see Appendix II), others are consistent with the 1985 GSS[1] and the 1978-79 Canada Health Survey (CHS),[2] allowing for the examination of temporal trends.

Most of the questions in this chapter focus on longer-term physical health problems. The most detailed of these is a series (Questions E2–E26, E28, E29) concerning problems with vision, hearing, speech, mobility, dexterity, memory, and thinking. These questions, along with others on pain (see Chapter 2) and feelings, constitute a scale of

functional ability known as the Comprehensive Health Status Classification System[3] (the CHSCS, informally known as the Torrance or McMaster Index). The index was used in the 1990 Ontario Health Survey[4] and will be part of the National Population Health Survey starting in 1994.[5]

The CHSCS was designed as an index which would summarize the individual's status on these eight attributes with a single score. In order to achieve this overall score, weights or "utilities" must be assigned to the various health states which can arise from combinations of scores on the eight separate attributes. However, because the scoring system for the CHSCS is still under development, this chapter is limited to reporting the prevalence of the individual attributes and to multiple attributes (0, 1, 2 or more). (Note that pain is treated more fully in Chapter 2, with other symptoms and conditions, although it is part of the index and appears in some tables in this chapter. Similarly, emotional health is treated more fully in Chapter 4, although results from Ques. E27 on happiness appear in this chapter with the other attributes of the CHSCS.)

Definitions of reduced function are as follows:

vision problems — blind, near-sighted or far-sighted

hearing problems — cannot hear what is said either in a group conversation with three or more other people or in a conversation with one other person in a quiet room

speech problems — any problems being understood by strangers or acquaintances

mobility problems — needs a wheelchair or other aid, or the help of another person to get around, or cannot walk at all

dexterity problems — less than full use of both hands and all 10 fingers, requires special equipment or the help of another person

cognitive problems — forgetful and/or has difficulty thinking and solving problems

pain — experiences trouble with pain or discomfort

emotional problems — less than "happy and interested in life."

In addition to the detailed questions on functional limitations, there are broad questions on activity limitation (Ques. F1–F3). The basic question ("Are you limited in the amount or kind of activity you can do at home, at work or at school because of a long-term physical condition or health problem?") is repeated without change from 1985, but is a condensed version of one asked in the CHS. Nevertheless, some cautious comparisons with 1978-79 are warranted.

Respondents reporting an activity limitation were asked to describe the underlying health reason. The description was recorded verbatim and later coded to a list of selected diseases and systems, as reported below. (This question did not appear in the 1985 GSS; it was asked in the CHS, but coded differently, precluding comparisons.)

Two-week disability days are a combination of bed days (Ques. B3) and reduced-activity days (Ques. B8) (not restricted to major activity) occurring for health reasons during the two weeks prior to the survey. Because data collection took place throughout the year, as explained in Chapter 1, it is reasonable to aggregate these data for the population without adjustment for any seasonal patterns in short-term disability. These questions were essentially unchanged from 1985 and 1978-79, although readers should be cautioned that there are potential problems when comparing change across time with the three surveys. In the case of the 1985 GSS, data collection occurred in September and October only, however, this would appear to be representative of the average full year expected values as determined by the CHS (see Appendix 2 of reference 2). In the case of the CHS, a much higher proportion of the total response was by a third party, though this is not thought to have had a significant impact.

Satisfaction with health was a new question (Ques. N2a) in 1991, part of a short series that also probed satisfaction with work (see Ch. 4) and with life in general. As this question came relatively late in the interview, it is reasonable to assume that the response elicited was fairly thoughtful. It should be noted, however, that the satisfaction questions preceded two detailed series on stress and happiness (reported in Ch. 4).

Non-response to most of the questions reported in this chapter is comparable to that for other topics in this report — that is, less than 2% for the population as a whole. The only exception of note is for health satisfaction. At 3% "not stated" for the total population, this is still highly acceptable. However, for some groups, the non-response exceeds 20%; this would have to be taken into account if such groups were being compared with others.

3.3 RESULTS

3.3.1 Functional Limitations

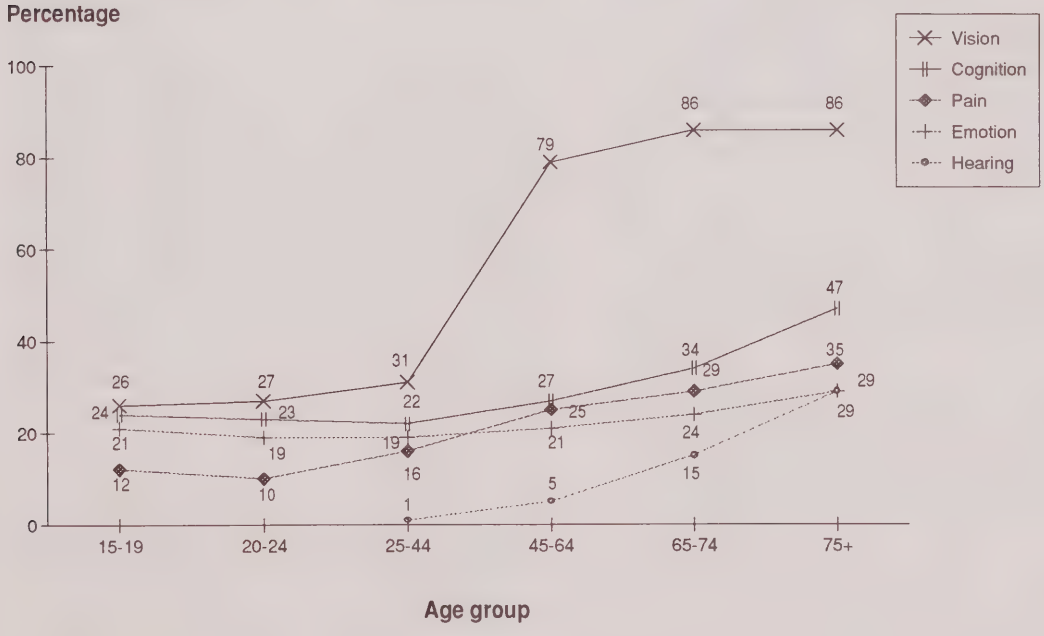
Less than one-third of Canadian adults (29%) report no reduced function (Table 3-1). The most common functional problems reported are: visual (50%), cognitive (26%), and emotional (21%). Equal proportions have one attribute (35% overall) or two or more attributes (34%) affected (Table 3-2).

Not all of these problems have the same impact, however, and the questionnaire clearly distinguishes between *corrected* and *uncorrected* problems in the case of vision and hearing. In the adult Canadian population, 4% (762,000 persons) have a hearing problem which is not overcome with an aid while 2% (405,000) have an uncorrected sight problem (data not in table).

Age and sex

The prevalence of one or more attributes at reduced function increases with age for both men and women (Table 3-1), with a particularly sharp increase of 30 percentage points between ages 25-44 and 45-64. Reduced function of individual attributes also increases with age (Figure 3-A). However, this increase is fairly gradual in the case of speech and emotion. Only vision increases sharply between young adulthood (age 25-44) and middle-age (age 45-64).

FIGURE 3-A
Attributes with reduced function by age group, age 15+, Canada, 1991



General Social Survey, 1991

The prevalence of reduced function among women is seven percentage points higher than among men (74% vs. 67%). This difference is most pronounced at age 20-24 (13 percentage points) and all but disappears by age 75 and older (Table 3-1). The attributes which most distinguish men from women are vision (12 percentage points) and pain (5 percentage points) on an absolute basis and hearing, mobility and dexterity on a relative basis where although the differences are not large at one or two percentage points, they potentially represent important sex differences. There are no sex differences in reduced speech, emotional or cognitive functioning.

Province

The lowest prevalence of reduced function is reported by adults living in Newfoundland (65%), Ontario (66%), New Brunswick and British Columbia (each 67%). These rates contrast with those in Quebec* (77%) and Saskatchewan (76%), which are the highest in the country (Text Table 3-A).

Rates for individual attributes tend to repeat this pattern: for example, vision problems are least common in Newfoundland, Ontario and New Brunswick; and reduced cognitive function is most

TEXT TABLE 3-A
Prevalence of three health status indicators by province, age 15+, Canada, 1991

Province	At least one function affected	Activity limited	Two-week disability
	(Percent)		(Mean no. of days)
Canada	70	11	0.64
Atlantic	69	17	0.73
Newfoundland	65	13	0.75
Prince Edward Island	72	18	0.80
Nova Scotia	72	20	0.80
New Brunswick	67	14	0.63
Quebec	77*	10	0.70
Ontario	66	9	0.55
Prairies	72	10	0.58
Manitoba	72	10	0.50
Saskatchewan	76	12	0.55
Alberta	70	10	0.63
British Columbia	67	17	0.76

General Social Survey, 1991

common in Quebec* and Saskatchewan. Hearing impairments present an interesting exception to these patterns, however, since there are relatively high levels of impaired hearing in Newfoundland and New Brunswick, but low levels in Quebec (Table 3-3). The reasons for this are not clear.

Income adequacy

As income adequacy improves, the likelihood of reduced function in one or more attributes drops (Table 3-2). This relationship appears to be independent of age. For example, at age 45 and older, those in the lowest income group are ten percentage points more likely to have some reduced function than those in the highest income group (95% vs. 85%). This advantage of income is even more pronounced for those younger than age 45, where 14 percentage points separate the highest from the lowest income groups.

3.3.2 Activity Limitation

Over 2.3 million Canadian adults (i.e. 11% of those aged 15 and over) reported that a long-term health problem limits the kind or amount of activity that they can do at home, work, or school (Table 3-4).

Age and sex

Long-term limitations are, not surprisingly, directly related to age for both men and women (Table 3-4). In the combined population, the rate of activity limitation increases steadily from 4% of 15 to 24 year olds, through 14% of 45 to 64 year olds, to 32% of Canadians aged 75 and older. For the general population, the prevalence of activity limitation is two percentage points higher for women than for men (12% vs. 10%), but this sex difference is not consistent in all age groups. In particular, at ages 65 to 74, women are *less* likely than men to report a limitation (19% vs. 22%).

* One reviewer suggested that English and French questions covering emotion and cognition (E27, E28 and E29) were not equivalent as the French translation of these questions omitted the concept of "usual"/"usually". This omission may partially explain some of the difference found between Quebec and the other provinces on these attributes and may have contributed to Quebec having the highest rate of reduced function amongst the provinces.

Province

There are remarkably wide variations in the provincial prevalence rates for long-term disability, ranging from a low of 9% in Ontario to a high of 20% in Nova Scotia (Text Table 3-A). Even within the Atlantic region, rates range from 13% in Newfoundland to 20% in Nova Scotia. Among Canadians aged 75 and over, the lowest prevalence of activity limitation is in Alberta (24%), while the highest is in Prince Edward Island (46%) (data not shown).

Income adequacy

Long-term limitations on activity are strongly related to income adequacy. Canadians in the lowest income group are almost four times as likely to be limited as those in the highest income group (Text Table 3-B). As with the functional limitations reported above, this is probably due in part, but not entirely, to the lower income of older people. The pattern is very similar for both men and women (data not shown).

Reasons for activity limitation

A wide range of conditions was reported as underlying the long-term limitations of activity. Musculo-skeletal problems were the most common of these, in particular back problems (20% of those with a limitation); these were followed by arthritis other than limbs, back, or spine (12%) and limb problems (12%). Other problems were mentioned less frequently (Figure 3-B).

Overall, the prevalence of these conditions was too low for much sub-group analysis. The exception is back problems, which occurred equally often for men and women, and which appear to be fairly evenly distributed over income groups (data not shown).

3.3.3 Two-Week Disability Days

During the two weeks prior to the survey interview, the normal activity of Canadians was affected by health problems for an average of 0.64 days (Table 3-5).

Age and sex

Men reported 21% fewer disability days (0.56 days) than women (0.71 days). For both sexes,

TEXT TABLE 3-B
Prevalence of three health status indicators by income adequacy, age 15+, Canada, 1991

Income adequacy	Health status indicator		
	Activity limitation	Two-week disability	Very satisfied with health
	(Percent)	(Mean no. of days)	(Percent)
Total	**11**	**0.64**	**55**
Lowest	25	1.34	37
Lower middle	19	0.96	47
Middle	13	0.70	54
Upper middle	9	0.53	57
Highest	7	0.48	65
Not stated	10	0.56	55

General Social Survey, 1991

days affected by health problems tended to increase with advancing years, from a low of 0.53 days at ages 15 to 19 to a high of 1.07 days at ages 75 and over (Table 3-5). Among women, however, this increase is not monotonic, as there is a surprisingly high level of disability days (0.84) at ages 20 to 24 (Figure 3-C).

Province

Average values for disability days range fairly widely, from 0.50 days in Manitoba to 0.80 days in Prince Edward Island and Nova Scotia (Text Table 3-A). Among men, the highest level of disability days is in Prince Edward Island (0.89 days) while the lowest is in New Brunswick, Saskatchewan, and British Columbia (each 0.42 days, Table 3-5). In contrast, disability days for women are highest in British Columbia (1.09 days) and lowest in Ontario and Manitoba (each 0.55 days).

Income adequacy

There is an inverse relationship between short-term disability and income adequacy: the higher the income, the fewer the days affected by health (Text Table 3-B).

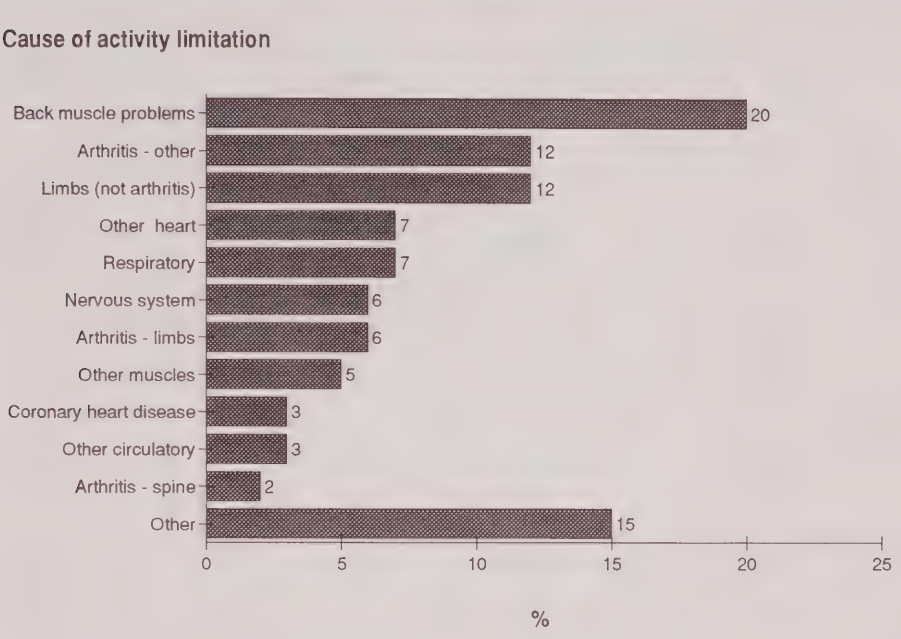
3.3.4 Days Off Work

Health affected the work performance of employed Canadians for an average of 0.24 days in the two weeks before the 1991 GSS (Table 3-6). With a few exceptions, most occupational groups are fairly close to the average value. Supervisors and skilled workers experience well below-average activity-loss (0.05 and 0.18 days, respectively), while the activity-loss for semi-skilled workers is above average (0.31 days). Employed women are more affected than employed men (0.28 vs. 0.22 days), and this is true of all occupational classes except unskilled workers, where men experience more activity-loss (0.25 vs. 0.19 days; see Chapter 6 for further findings on this topic).

3.3.5 Health Satisfaction

Over half of all adult Canadians (55%) describe themselves as very satisfied with their health status, and only 3% describe themselves as very dissatisfied (Table 3-7). Since 29% are "somewhat satisfied," the overall picture is fairly positive as regards satisfaction with health. Provincial differences are very small: all are within three percentage points of the average of 55% very satisfied (data not shown).

FIGURE 3-B
Cause of activity limitation, population age 15+ with a long-term activity limitation, Canada, 1991



General Social Survey, 1991

Age and sex

Over all ages, men are only slightly more likely than women to express high levels of satisfaction with their health (56% vs. 54%). At certain ages, however, the sex differences are substantial: among teens (ages 15 to 19) and young adults (ages 20 to 24), men are six to nine percentage points more likely than women to be very satisfied (Table 3-7). Interestingly, at ages 25 to 44, it is women, not men, who are more likely to be very satisfied with their health (59% vs. 56%).

For both men and women, there is a decline in health satisfaction with advancing age. While 60% of teens are very satisfied with their health, this is true of only 43% of older seniors (age 75 and over). However, the decline is less marked than for other health indicators reported in this chapter, and dissatisfaction remains relatively rare at all ages: 5% of Canadians ages 65 to 74 are very dissatisfied with their health, which is the highest prevalence of this sentiment (Table 3-7).

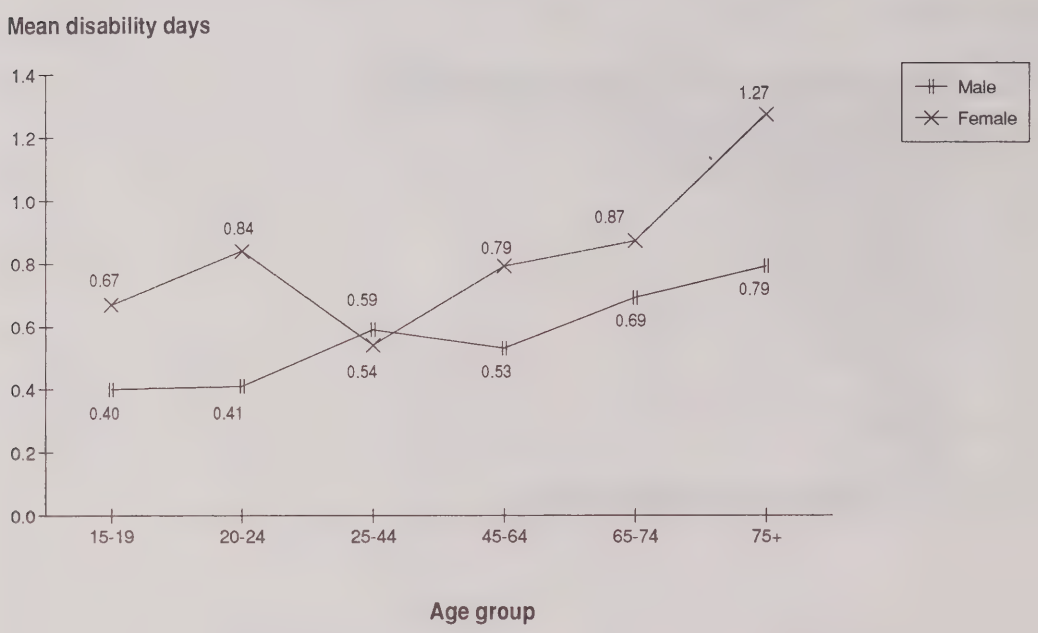
Income adequacy

The likelihood of being very satisfied with one's health increases in direct proportion to income adequacy (Text Table 3-B). Only 37% of those in the lowest group are very satisfied, compared to 65% in the highest group. Conversely, dissatisfaction increases as income adequacy decreases: 11% of those in the lowest group are very dissatisfied, compared to 3% of the upper middle income group, while dissatisfaction in the highest group is too rare to even be reported (data not shown).

3.3.6 Satisfaction in the Presence of Activity Limitation

While the survey did not ask for the specific reasons behind the satisfaction ratings, the satisfaction question did follow all of the questions on health status reported earlier in this chapter. Thus, it is instructive, if not completely conclusive, to compare the health satisfaction of Canadians with and without long-term activity limitations.

FIGURE 3-C
Mean disability days in two weeks prior to survey by age group and sex, age 15+, Canada, 1991



General Social Survey, 1991

The differences in satisfaction are in fact very large, and in the expected direction. Only 18% of Canadians with an activity limitation are very satisfied with their health, compared to 60% of those with no limitation (Text Table 3-C). Women with a limitation are even less likely than men, at all ages, to express high levels of satisfaction with their health.

3.4 DISCUSSION

3.4.1 Comparisons with 1978-79 and 1985

Activity limitation

Between 1978-79 and 1991, the overall prevalence of long-term activity limitation declined by three percentage points — from 14% to 11% (Text Table 3-D). This decline was equally true of men (13% to 10%) and women (15% to 12%). Not all age groups experienced a similar decline in limitation, however (Figure 3-D). Gains were inversely related to age: that is, Canadians in the 65 and older group experienced the greatest reductions in disability, while there was only very marginal change for those aged 15 to 44. This pattern is similar for both men and women (Text Table 3-D), and the decreases for the period 1985–1991 are similar in magnitude to those reported for the period 1985–1990 by the Health Promotion Survey (HPS).[6] However, this trend contrasts with the 1986 and 1991 Health and Activity Limitation Surveys, which show a slight *increase* in activity limitation on the part of older women.[7,8]

Disability days

Two-week disability days declined from a mean of 0.72 days in 1978-79 to 0.64 days in 1991 (Text Table 3-E). Most of this change is due to the gains by women (0.88 to 0.71 days), as there was virtually no change for men (0.55 to 0.56 days). Nor were the gains in two-week disability days equal for all age groups or at an even pace

TEXT TABLE 3-C
Population very satisfied with own health by long-term activity limitation, age group and sex, age 15+, Canada, 1991

Age group and sex	Very satisfied with health			
	Total	Activity limited	Activity not limited	Not stated
	(Percent)			
Population 15+				
Both sexes	55	18	60	–
Male	56	21	60	–
Female	54	15	60	–
15–44				
Both sexes	58	19	61	–
Male	58	23	61	–
Female	58	15	61	–
45–64				
Both sexes	53	14	60	–
Male	55	20	60	–
Female	52	10	59	–
65+				
Both sexes	47	20	57	–
Male	49	20	59	–
Female	46	19	55	–

General Social Survey, 1991

over this 13-year period (Figure 3-E): the greatest gains were among Canadians aged 65 and older, and all of this improvement occurred during the period 1985–1991.

Among middle-aged Canadians, men and women experienced equal improvements in disability days. Among younger adults (aged 15 to 44), however, women gained only marginally (0.65 to 0.60 days), while men lost ground markedly (0.33 to 0.53 days). There was little difference between 1985 and 1991 for younger men, however, pointing to the possibility that the low value for 1978-79 is due in part to the higher level of proxy reporting in the CHS.

3.4.2 Methodological Issues

The major issue in making comparisons between surveys is the consistency of question wording, sample design, and methods of data collection. There are few such differences between the 1985 and 1991 GSS cycles that would affect the data in this chapter, but the same cannot be said of comparisons with the 1978-79 CHS. As noted earlier, proxy responses were freely accepted in the CHS, a method of data collection which can lead to some under-reporting of cut-down days. This, in turn, could depress the estimates of two-week disability days in 1978-79. As proxy reporting most often affects the data of young men, this might help to explain the apparent *increase* from 1978-79 to 1991 in the disability days of men aged 15 to 44 while every other age–sex group showed a decline. However, it is noteworthy that this same group of younger men was also unique in showing no improvement in two-week disability days between 1985 and 1991. This suggests that the findings in Figure 3-E should not be dismissed lightly. However, the reasons for short-term disability were not determined in the GSS, and an explanation for this temporal trend is beyond the scope of this analysis.

In a similar fashion, it is possible to find differences between the CHS and the 1991 GSS in the

TEXT TABLE 3-D
Long-term activity limitation by sex and age group, population age 15+ with a long-term activity limitation, Canada, 1978-79, 1985 and 1991

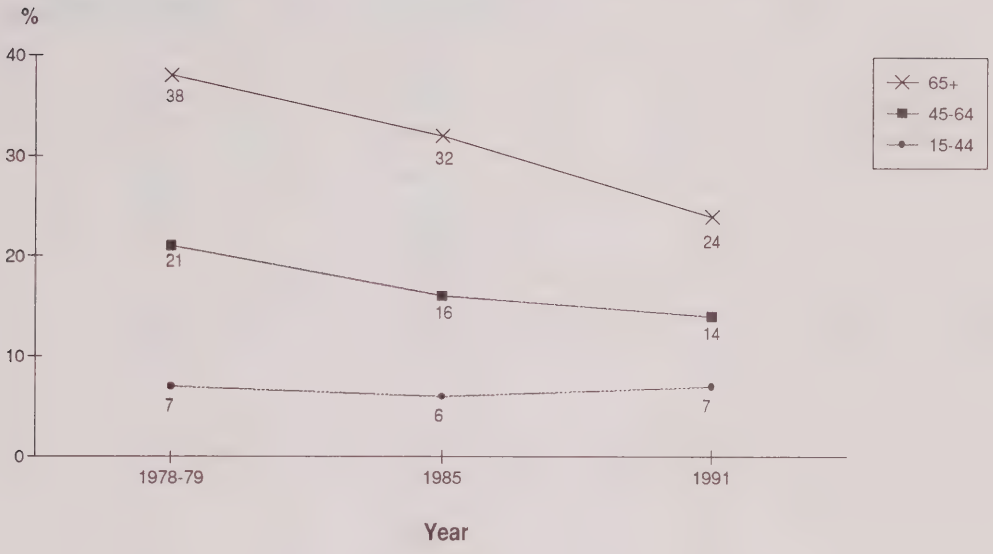
Sex and age group	1978-79		1985		1991	
	(No. in thousands)	(%)	(No. in thousands)	(%)	(No. in thousands)	(%)
Both sexes						
Population 15+	2,510	14	2,306	12	2,330	11
15-64 years	1,736	11	1,523	9	1,620	9
15-44	784	7	740	6	888	7
45-64	952	21	784	16	732	14
65+ years	774	38	783	32	710	24
Male						
Population 15+	1,153	13	1,030	11	1,075	10
15-64 years	814	11	724	8	772	9
15-44	354	6	320	5	446	7
45-64	459	21	404	17	326	12
65+ years	339	38	307	29	304	24
Female						
Population 15+	1,357	15	1,276	13	1,255	12
15-64 years	922	12	800	9	848	9
15-44	430	8	420	7	442	7
45-64	492	22	380	15	406	15
65+ years	435	38	476	34	407	24

Canada Health Survey, 1978-79
General Social Survey, 1985 and 1991

approach to measuring long-term activity limitation. These include the greater tolerance of proxy reporting in the earlier survey and, more importantly, more detailed questioning in the CHS. It is reasonable to suppose that separate questions about limitations at work, play, and school would elicit more positive responses than a single, combined question, thus elevating the prevalence of activity limitation in 1978-79. However, the decline in activity limitation between 1978-79 and 1985 is very similar to the decline between 1985 and 1991 (see Text Table 3-D), and the decline during this latter period is consistent with the decline from 1985 to 1990 reported by the HPS.[6] However, as noted above, this trend toward reduced activity limitation is contradicted by the more specialized disability surveys of 1983-84,[9] 1986,[7] and 1991.[8] This calls for further analysis.

In addition to the validity of trends over time, there remains the question of the true prevalence of activity limitation. According to the 1991 Health and Activity Limitation Survey, 49% of women aged 65 and older have a disability,[8] while the rate for this same group is 30% in the 1990 HPS[6] and 24% in the 1991 GSS. Similar differences between the

FIGURE 3-D
Activity limitation by age group, age 15+, Canada, 1978-79, 1985 and 1991



Canada Health Survey, 1978-79
General Social Survey, 1985 and 1991

latter two surveys occur across all age–sex groups, with the rate reported by the HPS always a few percentage points higher than that reported by the GSS. This may be due to the fact that the HPS inquired separately about limitations at home, at work, at school, and during other activities (in a fashion similar to the CHS), while the GSS combined these into a single question. However, this explanation is only speculative, suggesting that the effect of question wording on such estimates would be a worthwhile topic for further study.

3.4.3 Substantive Issues

The 1991 GSS is one of the few surveys to provide data for the age group 75 and over. As the population ages, there will be increasing numbers of Canadians in this group; knowledge of their health status will be important for planning health care services. For this group, the most common functional limitations are cognitive difficulties, hearing troubles, mobility troubles, and vision problems, but these affect only a minority; two thirds report no limitations to their regular activities, and 43% are very satisfied with their health. This is a generally positive picture, slightly tempered by the knowledge that it is confined to the approximately 84% of seniors still living in private households.[10,11]

The availability of better data on "older old" Canadians should not obscure the fact that there are health concerns among younger groups. This chapter reveals that, in contrast to men of the same age or women who are older, women age 20-24 have relatively high levels of reduced function and of disability days. This may be due to pregnancy and childbearing since long-term activity limitation among these young women is not elevated, but, since the survey did not determine pregnancy status, this explanation remains speculative.

TEXT TABLE 3-E
Mean disability days, by sex and age group, age 15+, Canada, 1978-79, 1985 and 1991

Sex and age group	1978-79	1985	1991
	Mean disability days		
Both sexes			
Population 15+	0.72	0.74	0.64
15-44 years	0.49	0.59	0.57
45-64 years	0.97	0.80	0.66
65+ years	1.40	1.39	0.90
Male			
Population 15+	0.55	0.63	0.56
15-44 years	0.33	0.52	0.53
45-64 years	0.84	0.71	0.53
65+ years	1.21	1.07	0.72
Female			
Population 15+	0.88	0.86	0.71
15-44 years	0.65	0.66	0.60
45-64 years	1.08	0.90	0.79
65+ years	1.54	1.64	1.02

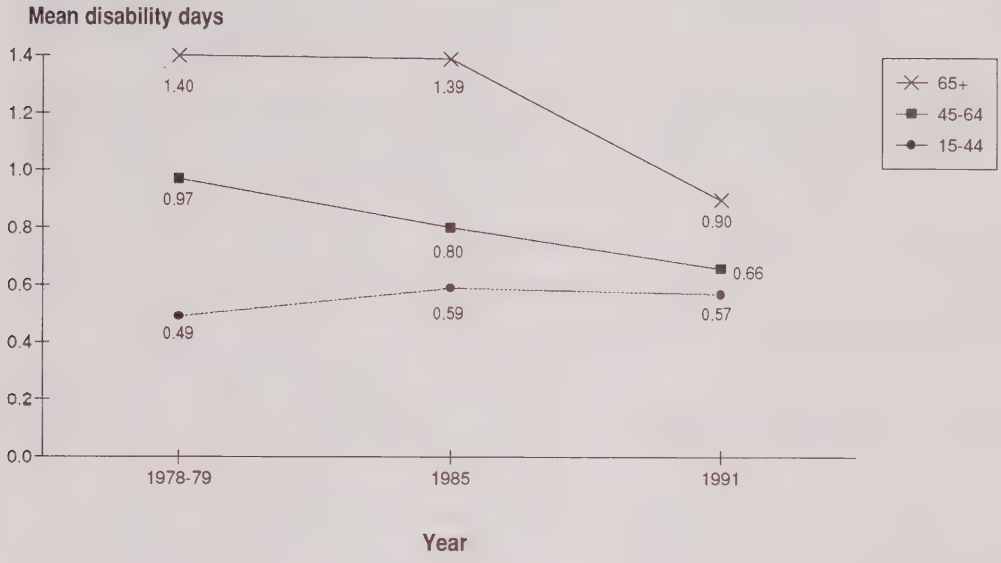
Canada Health Survey, 1978-79
General Social Survey, 1985 and 1991

This report is also somewhat unusual among health survey reports in providing findings by province, rather than region. In this chapter, significant interprovincial differences are reported for long-term activity limitation and two-week disability days. In some cases, there can be meaningful differences within the Atlantic provinces or Prairies, underlining the value of reporting data at the level of the province rather than the region whenever sample size permits.

As with many other topics covered elsewhere in this report, this chapter reveals a consistent inverse relationship between good health and income. This is true for most forms of functional limitation, activity limitation, two-week disability days, and even health satisfaction. These findings are consistent with other surveys and non-survey indicators of health[12,13] and cannot be attributed to the relationship between age and income. Since there is reasonable equality of access to health care services across income groups (see Chapter 7), these differences in health status must be due to differential exposure to risks, or to differing abilities to cope with physical and mental stress. Chapters 5, 9, and 10 document socio-economic inequalities in being overweight, smoking, and physical activity; beginning in 1994, the National Population Health Survey will document responses to stressful situations and the distribution of resources for coping with stress. This should help to explain these relationships between health and social status.

There is an apparent paradox revealed in this report which deserves further study. While activity limitation declined from 1978-79 to 1991, the prevalence of many chronic conditions increased markedly (Chapter 2). Apparently these are independent indicators of health status, as these conditions do not always result in activity limitation, particularly

FIGURE 3-E
Mean disability days in two weeks preceding survey by age group, age 15+, Canada, 1978-79, 1985 and 1991



Canada Health Survey, 1978-79
General Social Survey, 1985 and 1991

among the non-institutionalized population. This may be due to the wider availability of facilities and services for overcoming impairments and disabilities, or to changing views of what constitutes "normal" activity and what constitutes a limitation.

This chapter also reveals the complexity of measuring health and function in a population. It is apparent that reduced function does not necessarily lead to activity limitation, since 70% of adults have at least one functional attribute affected but only 11% are affected in their work, play or other normal activities (Text Table 3-A). The simplest explanation for this is the fact that vision is the attribute which is most often affected, but almost all adults with vision problems have corrective lenses. This is not the entire explanation, however, and further analysis of the GSS 6 and other surveys is required to better understand the various meanings which the public may attach to the term "limited in your normal activity." It is even possible that meanings vary from province to province. For example, while Newfoundland, New Brunswick and Ontario have the lowest levels of reduced function (Text Table 3-A), Newfoundland and New Brunswick report levels of activity limitation that are above the national average. Quebec and Saskatchewan, on the other hand, have the highest levels of reduced function according to the CHSCS but are near the national average in activity limitation. These questions invite further analysis; the large provincial samples of the 1991 GSS and the Health and Activity Limitation Surveys make this analysis possible.

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TABLE 3-1
Comprehensive Health Status Classification System attributes at reduced function by sex and age group, age 15+, Canada, 1991

Sex and age group	Total population 15+		No attributes at reduced function		At least one attribute at reduced function(1)																Not stated	
					Total		Vision		Hearing		Speech		Mobility		Dexterity		Emotion		Cognition		Pain			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)																					
Both sexes																						
Population 15+	20,981	100	6,080	29	14,764	70	10,488	50	1,072	5	170	1	654	3	349	2	4,307	21	5,411	26	4,092	20	137	1
15-64 years	18,073	100	5,898	33	12,053	67	7,985	44	470	3	124	1	233	1	214	1	3,560	20	4,273	24	3,190	18	122	1
15-24 years	3,793	100	1,617	43	2,149	57	1,002	26	46	1	47	1	--	--	--	--	748	20	893	24	433	11	26	1
15-19 years	1,825	100	800	44	1,019	56	470	26	--	--	28	2	--	--	--	--	383	21	443	24	227	12	--	--
20-24 years	1,967	100	818	42	1,131	57	533	27	--	--	--	--	--	--	--	--	365	19	450	23	205	10	--	--
25-44 years	9,005	100	3,668	41	5,266	58	2,816	31	134	1	55	1	72	1	86	1	1,686	19	1,956	22	1,428	16	71	1
45-64 years	5,275	100	613	12	4,637	88	4,167	79	290	5	--	--	149	3	115	2	1,127	21	1,424	27	1,330	25	--	--
65+ years	2,908	100	181	6	2,712	93	2,502	86	602	21	46	2	421	14	135	5	747	26	1,138	39	902	31	--	--
65-74 years	1,824	100	127	7	1,685	92	1,567	86	282	15	--	--	158	9	63	3	433	24	629	34	522	29	--	--
75+ years	1,084	100	54	5	1,026	95	935	86	319	29	28	3	263	24	73	7	313	29	509	47	379	35	--	--
Male																						
Population 15+	10,266	100	3,300	32	6,888	67	4,500	44	601	6	102	1	256	2	195	2	2,131	21	2,560	25	1,751	17	78	1
15-64 years	9,022	100	3,208	36	5,743	64	3,474	39	282	3	82	1	116	1	130	1	1,839	20	2,064	23	1,430	16	71	1
15-24 years	1,935	100	915	47	1,009	52	371	19	--	--	--	--	--	--	--	--	387	20	513	26	167	9	--	--
15-19 years	936	100	435	47	499	53	192	20	--	--	--	--	--	--	--	--	195	21	249	27	93	10	--	--
20-24 years	1,000	100	480	48	510	51	179	18	--	--	--	--	--	--	--	--	192	19	264	26	74	7	--	--
25-44 years	4,476	100	1,941	43	2,495	56	1,131	25	69	2	40	1	44	1	57	1	910	20	945	21	693	15	40	1
45-64 years	2,611	100	351	13	2,239	86	1,973	76	188	7	--	--	72	3	63	2	542	21	606	23	569	22	--	--
65+ years	1,245	100	92	7	1,145	92	1,026	82	318	26	--	--	139	11	65	5	292	23	496	40	321	26	--	--
65-74 years	796	100	66	8	723	91	653	82	159	20	--	--	56	7	29	4	175	22	286	36	184	23	--	--
75+ years	448	100	26	6	422	94	373	83	159	36	--	--	84	19	36	8	117	26	210	47	137	31	--	--
Female																						
Population 15+	10,715	100	2,780	26	7,877	74	5,987	56	471	4	68	1	398	4	154	1	2,176	20	2,851	27	2,340	22	58	1
15-64 years	9,051	100	2,690	30	6,310	70	4,511	50	187	2	42	--	117	1	84	1	1,721	19	2,209	24	1,760	19	51	1
15-24 years	1,857	100	702	38	1,141	61	632	34	--	--	--	--	--	--	--	--	360	19	380	20	265	14	--	--
15-19 years	890	100	364	41	520	58	278	31	--	--	--	--	--	--	--	--	188	21	195	22	134	15	--	--
20-24 years	968	100	338	35	621	64	354	37	--	--	--	--	--	--	--	--	173	18	186	19	131	14	--	--
25-44 years	4,530	100	1,727	38	2,771	61	1,686	37	65	1	--	--	28	1	29	1	776	17	1,011	22	735	16	31	1
45-64 years	2,664	100	261	10	2,398	90	2,194	82	102	4	--	--	77	3	52	2	584	22	817	31	760	29	--	--
65+ years	1,664	100	90	5	1,567	94	1,476	89	283	17	27	2	282	17	70	4	455	27	642	39	580	35	--	--
65-74 years	1,028	100	61	6	962	94	915	89	123	12	--	--	102	10	33	3	258	25	343	33	338	33	--	--
75+ years	636	100	29	4	605	95	561	88	160	25	--	--	180	28	37	6	197	31	299	47	242	38	--	--

(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of affirmative responses shown.

General Social Survey, 1991

TABLE 3-2
Number of Comprehensive Health Status Classification System attributes at reduced function by age group and income adequacy, age 15+, Canada, 1991

Age group and income adequacy	Total population 15+		No attributes at reduced function		At least one attribute at reduced function								Not stated	
					Total		One attribute		Two or more attributes		Not stated			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)													
Population 15+														
Total	20,981	100	6,080	29	14,764	70	7,422	35	7,166	34	177	1	137	1
Lowest	799	100	148	19	647	81	182	23	460	58	--	--	--	--
Lower middle	1,633	100	350	21	1,280	78	482	30	785	48	--	--	--	--
Middle	4,766	100	1,234	26	3,510	74	1,590	33	1,903	40	--	--	--	--
Upper middle	5,743	100	1,758	31	3,947	69	2,232	39	1,675	29	40	1	38	1
Highest	2,171	100	741	34	1,421	65	928	43	484	22	--	--	--	--
Not stated	5,869	100	1,848	31	3,960	67	2,007	34	1,858	32	94	2	61	1
15-44 years														
Total	12,798	100	5,285	41	7,416	58	4,447	35	2,886	23	83	1	97	1
Lowest	398	100	131	33	266	67	111	28	151	38	--	--	--	--
Lower middle	839	100	298	35	542	65	264	31	271	32	--	--	--	--
Middle	2,903	100	1,110	38	1,771	61	997	34	763	26	--	--	--	--
Upper middle	3,834	100	1,548	40	2,251	59	1,434	37	785	20	32	1	35	1
Highest	1,313	100	615	47	692	53	468	36	223	17	--	--	--	--
Not stated	3,511	100	1,585	45	1,895	54	1,172	33	692	20	--	--	31	1
45+ years														
Total	8,183	100	794	10	7,349	90	2,976	36	4,280	52	93	1	40	--
Lowest	401	100	--	--	382	95	70	18	310	77	--	--	--	--
Lower middle	794	100	52	7	738	93	218	27	514	65	--	--	--	--
Middle	1,864	100	125	7	1,739	93	593	32	1,139	61	--	--	--	--
Upper middle	1,909	100	210	11	1,696	89	798	42	890	47	--	--	--	--
Highest	858	100	127	15	728	85	461	54	261	30	--	--	--	--
Not stated	2,358	100	263	11	2,065	88	835	35	1,166	49	64	3	30	1
45-64 years														
Total	5,275	100	613	12	4,637	88	2,160	41	2,422	46	55	1	--	--
Lowest	206	100	--	--	197	96	36	18	161	78	--	--	--	--
Lower middle	345	100	29	8	316	92	106	31	206	60	--	--	--	--
Middle	1,035	100	72	7	962	93	361	35	597	58	--	--	--	--
Upper middle	1,552	100	183	12	1,366	88	670	43	689	44	--	--	--	--
Highest	769	100	121	16	645	84	424	55	215	28	--	--	--	--
Not stated	1,368	100	198	14	1,150	84	563	41	555	41	32	2	--	--
65+ years														
Total	2,908	100	181	6	2,712	93	816	28	1,858	64	38	1	--	--
Lowest	195	100	--	--	185	95	34	18	149	77	--	--	--	--
Lower middle	449	100	--	--	422	94	112	25	308	69	--	--	--	--
Middle	829	100	52	6	777	94	232	28	542	65	--	--	--	--
Upper middle	357	100	27	8	330	92	128	36	201	56	--	--	--	--
Highest	89	100	--	--	83	94	37	42	46	52	--	--	--	--
Not stated	990	100	65	7	915	92	272	27	611	62	31	3	--	--

General Social Survey, 1991

TABLE 3-3
Comprehensive Health Status Classification System attributes at reduced function by province, age 15+, Canada, 1991

Province	Total population 15+		No attributes at reduced function		At least one attribute at reduced function[1]																		Not stated	
					Total		Vision		Hearing		Speech		Mobility		Dexterity		Emotion[2]		Cognition[2]		Pain			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)																							
Population 15+																								
Canada	20,981	100	6,080	29	14,764	70	10,488	50	1,072	5	170	1	654	3	349	2	4,307	21	5,411	26	4,092	20	137	1
Atlantic	1,806	100	556	31	1,238	69	891	49	150	8	49	3	72	4	50	3	312	17	412	23	322	18	--	--
Newfoundland	438	100	151	34	286	65	196	45	34	8	15	3	11	3	13	3	80	18	96	22	68	15	--	--
P.E.I.	98	100	27	28	70	72	50	50	8	9	--	--	3	3	--	--	14	14	26	26	15	15	--	--
Nova Scotia	704	100	192	27	505	72	379	54	60	8	17	2	38	5	14	2	121	17	144	20	139	20	--	--
New Brunswick	566	100	186	33	377	67	266	47	49	9	--	--	20	4	17	3	98	17	147	26	100	18	--	--
Quebec	5,384	100	1,206	22	4,161	77	2,777	52	268	5	54	1	128	2	81	1	1,692	31	1,978	37	1,400	26	--	--
Ontario	7,778	100	2,560	33	5,168	66	3,754	48	304	4	--	--	275	4	121	2	1,235	16	1,638	21	1,384	18	50	1
Prairies	3,482	100	934	27	2,502	72	1,815	52	218	6	35	1	95	3	49	1	643	18	968	28	493	14	45	1
Manitoba	839	100	218	26	608	72	423	50	51	6	--	--	25	3	--	--	170	20	240	29	114	14	--	--
Saskatchewan	742	100	175	24	560	76	411	55	65	9	--	--	23	3	12	2	137	18	233	31	118	16	--	--
Alberta	1,901	100	542	29	1,334	70	980	52	103	5	--	--	46	2	26	1	336	18	495	26	262	14	25	1
British Columbia	2,532	100	824	33	1,696	67	1,251	49	131	5	--	--	83	3	49	2	424	17	415	16	492	19	--	--

General Social Survey, 1991

(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of affirmative responses shown.

(2) One reviewer suggested that English and French questions covering emotion and cognition (E27, E28 and E29) were not equivalent as the French translation of these questions omitted the concept of "usual"/"usually". This omission may partially explain some of the difference found between Quebec and the other provinces on these attributes and may have contributed to Quebec having the highest rate of reduced function amongst the provinces.

TABLE 3-4
Long-term activity limitations by sex and age group, age 15+, Canada, 1991

Sex and age group	Total population 15+		Long-term activity limitations					
			Yes		No		Not stated	
	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)							
Both sexes								
Population 15+	20,981	100	2,330	11	18,591	89	59	--
15-64 years	18,073	100	1,620	9	16,425	91	28	--
15-24 years	3,793	100	159	4	3,630	96	--	--
15-19 years	1,825	100	69	4	1,756	96	--	--
20-24 years	1,967	100	90	5	1,874	95	--	--
25-44 years	9,005	100	729	8	8,264	92	--	--
45-64 years	5,275	100	732	14	4,531	86	--	--
65+ years	2,908	100	710	24	2,166	74	31	1
65-74 years	1,824	100	366	20	1,438	79	--	--
75+ years	1,084	100	344	32	729	67	--	--
Male								
Population 15+	10,266	100	1,075	10	9,162	89	29	--
15-64 years	9,022	100	772	9	8,232	91	--	--
15-24 years	1,935	100	60	3	1,873	97	--	--
15-19 years	936	100	--	--	906	97	--	--
20-24 years	1,000	100	--	--	967	97	--	--
25-44 years	4,476	100	386	9	4,083	91	--	--
45-64 years	2,611	100	326	12	2,276	87	--	--
65+ years	1,245	100	304	24	929	75	--	--
65-74 years	796	100	172	22	618	78	--	--
75+ years	448	100	132	29	312	69	--	--
Female								
Population 15+	10,715	100	1,255	12	9,430	88	30	--
15-64 years	9,051	100	848	9	8,193	91	--	--
15-24 years	1,857	100	99	5	1,757	95	--	--
15-19 years	890	100	40	4	850	96	--	--
20-24 years	968	100	60	6	907	94	--	--
25-44 years	4,530	100	343	8	4,181	92	--	--
45-64 years	2,664	100	406	15	2,255	85	--	--
65+ years	1,664	100	407	24	1,237	74	--	--
65-74 years	1,028	100	194	19	820	80	--	--
75+ years	636	100	213	33	417	66	--	--

General Social Survey, 1991

TABLE 3-5
Mean disability days in two weeks preceding survey by province, sex and age group, age 15+[1], Canada, 1991

Sex and age group	Province												
	Canada	Atlantic					Que.	Ont.	Prairies				B.C.
		Total	Nfld.	P.E.I.	N.S.	N.B.			Total	Man.	Sask.	Alta.	
	Mean disability days												
Both sexes													
Population 15+	0.64	0.73	0.75	0.80	0.80	0.63	0.70	0.55	0.58	0.50	0.55	0.63	0.76
15-64 years	0.59	0.69	0.72	0.70	0.78	0.55	0.67	0.52	0.53	0.42	0.51	0.59	0.69
15-24 years	0.58	0.42	0.53	0.51	0.58	0.12	0.83	0.53	0.44	0.20	0.38	0.56	0.54
15-19 years	0.53	0.43	0.46	0.48	0.59	0.20	0.64	0.60	0.44	0.17	0.54	0.52	0.30
20-24 years	0.62	0.41	0.59	0.56	0.57	0.04	1.01	0.47	0.44	0.23	0.20	0.60	0.75
25-44 years	0.56	0.69	0.68	0.78	0.75	0.62	0.53	0.55	0.54	0.36	0.61	0.58	0.64
45-64 years	0.66	0.93	0.98	0.73	1.01	0.81	0.79	0.46	0.60	0.69	0.45	0.62	0.88
65+ years	0.90	0.99	0.99	1.22	0.87	1.08	0.92	0.76	0.91	0.93	0.75	1.00	1.14
65-74 years	0.79	0.98	1.21	0.78	0.88	0.98	0.75	0.75	0.80	0.39	0.47	1.26	0.85
75+ years	1.07	1.00	0.55	1.85	0.85	1.22	1.21	0.79	1.07	1.62	1.18	0.63	1.58
Male													
Population 15+	0.56	0.57	0.63	0.89	0.62	0.42	0.66	0.56	0.48	0.46	0.42	0.51	0.42
15-64 years	0.53	0.50	0.56	0.84	0.55	0.32	0.67	0.55	0.41	0.35	0.38	0.44	0.38
15-24 years	0.40	0.23	0.37	0.49	0.18	0.11	0.55	0.49	0.20	0.25	0.09	0.21	0.30
15-19 years	0.40	0.26	0.37	0.65	0.13	0.22	0.44	0.54	0.25	0.30	0.10	0.29	0.22
20-24 years	0.41	0.19	0.36	--	0.22	0.00	0.66	0.45	0.14	0.21	0.09	0.13	0.38
25-44 years	0.59	0.44	0.63	0.80	0.40	0.29	0.61	0.74	0.47	0.25	0.52	0.54	0.35
45-64 years	0.53	0.85	0.66	1.25	1.14	0.57	0.85	0.28	0.46	0.59	0.36	0.45	0.47
65+ years	0.72	1.10	1.16	1.16	1.05	1.10	0.58	0.62	0.98	1.13	0.65	1.10	0.68
65-74 years	0.69	1.27	1.15	1.28	1.43	1.15	0.49	0.66	0.96	0.58	0.40	1.53	0.35
75+ years	0.79	0.68	1.17	0.94	0.16	0.96	0.72	0.55	1.02	1.80	1.04	0.47	1.19
Female													
Population 15+	0.71	0.88	0.87	0.71	0.97	0.82	0.74	0.55	0.69	0.55	0.68	0.76	1.09
15-64 years	0.66	0.88	0.87	0.57	1.01	0.78	0.66	0.49	0.66	0.49	0.65	0.74	1.00
15-24 years	0.76	0.62	0.69	0.53	1.00	0.12	1.13	0.58	0.70	0.15	0.67	0.93	0.78
15-19 years	0.67	0.60	0.56	--	1.08	0.17	0.86	0.67	0.64	0.04	1.01	0.76	0.39
20-24 years	0.84	0.64	0.82	0.83	0.94	0.08	1.38	0.50	0.75	0.26	0.32	1.09	1.14
25-44 years	0.54	0.94	0.74	0.76	1.09	0.94	0.44	0.36	0.61	0.47	0.70	0.63	0.92
45-64 years	0.79	1.00	1.31	0.22	0.88	1.04	0.74	0.64	0.73	0.79	0.53	0.78	1.28
65+ years	1.02	0.90	0.85	1.27	0.74	1.06	1.16	0.87	0.86	0.78	0.83	0.93	1.50
65-74 years	0.87	0.69	1.25	0.29	0.41	0.80	0.93	0.81	0.68	0.25	0.53	1.04	1.24
75+ years	1.27	1.18	0.10	2.39	1.23	1.33	1.56	0.95	1.12	1.47	1.29	0.76	1.90

General Social Survey, 1991

(1) Population who reported partial days were attributed with 0.5 disability days while those who were "not stated" for disability days were excluded from the calculations.

TABLE 3-6
Mean activity loss days in the two weeks preceding the survey by sex, age group, main activity[1] and occupational status for those whose main activity was working, population aged 15+ with specified main activity, Canada, 1991

Age group, main activity and occupational status	Mean activity loss days					
	Both sexes		Male		Female	
	No.	Mean	No.	Mean	No.	Mean
	(No. in thousands)					
Population 15+						
Total main activity	16,434	0.32	7,471	0.23	8,963	0.39
Working	10,736	0.24	6,396	0.22	4,340	0.28
Professionals/ high-level management	1,451	0.29	821	0.26	630	0.34
Semi-professionals/ technicians & middle man.	1,934	0.28	1,086	0.27	849	0.30
Supervisors/ fore(wo)men	623	0.05	450	0.04	174	0.06
Skilled workers	2,248	0.18	1,550	0.16	699	0.22
Semi-skilled workers	2,292	0.31	1,143	0.27	1,149	0.35
Unskilled workers	1,985	0.23	1,216	0.25	770	0.19
Not stated	201	0.22	132	0.24	70	0.18
Going to school	1,863	0.39	917	0.27	945	0.50
Keeping house	3,836	0.49	158	0.12	3,678	0.50
15-24 years						
Total main activity	3,364	0.37	1,668	0.26	1,696	0.48
Working	1,579	0.27	863	0.22	716	0.34
Professionals/ high-level management	85	0.28	--	--	58	0.08
Semi-professionals/ technicians & middle man.	212	0.04	93	0.06	119	0.02
Supervisors/ fore(wo)men	34	0.00	--	--	--	--
Skilled workers	301	0.15	177	0.01	124	0.36
Semi-skilled workers	556	0.41	280	0.27	276	0.55
Unskilled workers	383	0.33	261	0.33	123	0.34
Not stated	--	--	--	--	--	--
Going to school	1,564	0.42	793	0.30	770	0.53
Keeping house	222	0.72	--	--	210	0.76
25-44 years						
Total main activity	8,096	0.27	3,875	0.23	4,221	0.31
Working	6,218	0.25	3,646	0.24	2,572	0.27
Professionals/ high-level management	908	0.27	492	0.20	415	0.36
Semi-professionals/ technicians & middle man.	1,202	0.36	664	0.35	538	0.37
Supervisors/ fore(wo)men	393	0.08	284	0.07	109	0.10
Skilled workers	1,342	0.20	917	0.21	425	0.19
Semi-skilled workers	1,189	0.33	608	0.37	581	0.29
Unskilled workers	1,059	0.13	610	0.11	450	0.16
Not stated	124	0.31	71	0.45	54	0.12
Going to school	274	0.24	123	0.06	151	0.40
Keeping house	1,604	0.37	105	0.15	1,499	0.38
45-64 years						
Total main activity	4,112	0.30	1,823	0.20	2,289	0.38
Working	2,827	0.22	1,794	0.20	1,033	0.26
Professionals/ high-level management	437	0.36	281	0.34	157	0.40
Semi-professionals/ technicians & middle man.	507	0.20	318	0.16	189	0.27
Supervisors/ fore(wo)men	186	--	133	--	53	0.00
Skilled workers	567	0.15	423	0.13	145	0.21
Semi-skilled workers	536	0.16	250	0.02	286	0.29
Unskilled workers	525	0.35	333	0.44	192	0.19
Not stated	68	0.08	58	0.00	--	--
Going to school	--	--	--	--	--	--
Keeping house	1,261	0.47	28	0.11	1,233	0.48
65+ years						
Total main activity	861	0.63	105	0.13	756	0.70
Working	111	0.13	92	0.15	--	0.01
Professionals/ high-level management	--	0.00	--	0.00	--	--
Semi-professionals/ technicians & middle man.	--	0.44	--	--	--	--
Supervisors/ fore(wo)men	--	--	--	--	--	--
Skilled workers	38	0.02	33	0.02	--	--
Semi-skilled workers	--	--	--	--	--	--
Unskilled workers	--	0.26	--	--	--	--
Going to school	--	--	--	--	--	--
Keeping house	750	0.70	--	0.00	736	0.71

General Social Survey, 1991

[1] Activity loss days were not collected for those whose main activity was "retired", "looking for work" or "other".

TABLE 3-7
Health satisfaction by sex and age group, age 15+, Canada, 1991

Sex and age group	Total population 15+		Health satisfaction: Very dissatisfied		Somewhat dissatisfied/ degree n.s.		Somewhat satisfied/ degree n.s.		Very satisfied		No opinion/ not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)											
Both sexes												
Population 15+	20,981	100	721	3	1,713	8	6,106	29	11,604	55	838	4
15-64 years	18,073	100	584	3	1,435	8	5,270	29	10,227	57	556	3
15-24 years	3,793	100	83	2	253	7	1,170	31	2,218	58	69	2
15-19 years	1,825	100	--	--	109	6	577	32	1,100	60	--	--
20-24 years	1,967	100	66	3	144	7	593	30	1,117	57	46	2
25-44 years	9,005	100	284	3	664	7	2,600	29	5,205	58	252	3
45-64 years	5,275	100	218	4	518	10	1,499	28	2,805	53	235	4
65+ years	2,908	100	136	5	277	10	836	29	1,377	47	282	10
65-74 years	1,824	100	93	5	157	9	528	29	913	50	133	7
75+ years	1,084	100	43	4	120	11	308	28	464	43	148	14
Male												
Population 15+	10,266	100	281	3	751	7	3,033	30	5,771	56	430	4
15-64 years	9,022	100	229	3	649	7	2,678	30	5,156	57	310	3
15-24 years	1,935	100	--	--	120	6	558	29	1,203	62	--	--
15-19 years	936	100	--	--	37	4	278	30	604	65	--	--
20-24 years	1,000	100	--	--	83	8	279	28	599	60	--	--
25-44 years	4,476	100	126	3	309	7	1,381	31	2,524	56	136	3
45-64 years	2,611	100	80	3	220	8	739	28	1,428	55	143	5
65+ years	1,245	100	52	4	103	8	356	29	615	49	119	10
65-74 years	796	100	36	5	66	8	223	28	417	52	54	7
75+ years	448	100	--	--	36	8	133	30	198	44	65	15
Female												
Population 15+	10,715	100	439	4	961	9	3,072	29	5,833	54	408	4
15-64 years	9,051	100	355	4	787	9	2,592	29	5,072	56	246	3
15-24 years	1,857	100	60	3	133	7	613	33	1,015	55	37	2
15-19 years	890	100	--	--	72	8	299	34	496	56	--	--
20-24 years	968	100	46	5	60	6	314	32	518	54	--	--
25-44 years	4,530	100	158	3	356	8	1,219	27	2,681	59	117	3
45-64 years	2,664	100	137	5	298	11	760	29	1,376	52	92	3
65+ years	1,664	100	84	5	174	10	481	29	762	46	163	10
65-74 years	1,028	100	57	6	91	9	305	30	496	48	79	8
75+ years	636	100	27	4	84	13	176	28	266	42	83	13

General Social Survey, 1991

CHAPTER 4

PSYCHOLOGICAL WELL-BEING

4.1 HIGHLIGHTS

- Sixteen percent of Canadian adults report high levels of positive well-being. Eight percent have a predominance of negative affect, indicating at least some emotional distress.
- Twenty-two percent of widowed men display negative affect, compared to 6% of married men.
- Since 1978, well-being has improved.
- The proportion of people who are negative in emotional well-being is four times greater for those who live with severe pain (24%) than for those who live without pain (6%).
- Emotional well-being is positively related to financial well-being.
- While the majority of Canadians are satisfied with their job or main activity (84%), nearly half (46%) of Canadians who report their main activity to be looking for work are dissatisfied.
- More than one in four men (27%) and more than one in five women (21%) in the lowest income group are dissatisfied with their job or main activity.

4.2 METHODS

This chapter reports findings of the 1991 GSS related to emotional health, focusing on emotional well-being and satisfaction with one's job or other main activity. While these indicators provide some important information on health status to complement the predominantly physical health focus in other chapters, they do not provide a comprehensive view of mental health. As revealed by the experience of both the Ontario Health Survey[1] and Enquête Santé Québec,[2] such a comprehensive view requires a special survey with its own methods.

4.2.1 Emotional Well-Being

The Bradburn Affect Balance Scale (ABS)[3] was used in the 1991 GSS to indicate emotional well-being. The Bradburn scale is an easily administered measure suitable for face-to-face and telephone interviews. The scale was used in the 1978-79 Canada Health Survey,[4] the 1981 Canada Fitness Survey,[5] the 1988 Campbell's Survey on Well-Being in Canada,[6] and the 1991 Survey on Aging and Independence[7]; thus, comparisons of findings across surveys are possible (with appropriate care for consistency of scoring). The scale has adequate

validity and reliability[8] and a clear conceptual framework.

Bradburn conceptualized emotional health on two dimensions; thus, the scale assesses both positive and negative affect and provides separate scores for these dimensions.[3] Positive affect is characterized by feelings of happiness, contentment, and energy, whereas negative affect is characterized by feelings of unhappiness, unease, and boredom. The scale was the first designed for use in population surveys that treated emotional well-being as more than the absence of emotional problems. On the other hand, it is unable to identify specific disorders such as anxiety or depression.

The scale inquires directly about emotional well-being by asking five questions that describe positive affect and five questions on negative affect (see Section P in Appendix II). Respondents indicate the frequency with which they have experienced each of these states during the past few weeks.

To produce a score, frequencies ("often," "sometimes," or "never") were weighted with values of 1, 2, and 3. Scale scores thus range from 5 to 15. For the negative affect scale, a score of 5 indicates 5 "often" responses while a score of 15 indicates 5 "never" responses. Lower scores on this scale are indicative of high negative affect. The scoring is analogous for the positive affect scale, but in this case a low score is indicative of greater positive affect and consequently greater emotional well-being.

Although positive and negative affect were postulated to be independent, Bradburn advocates incorporating both sub-scales into the ABS as the best assessment of general emotional well-being. The method used here to calculate the ABS score is to subtract the positive affect score from the negative affect score. To maintain positive numbers, 10 is added to the difference, yielding a score within the range of 0 to 20. In contrast to the negative category which has a naturally defined cut-off point, the cut-off points for the positive categories were chosen arbitrarily. The categories were defined as follows:

0–9	—	negative
10–16	—	low-positive, neutral, or mixed
17–20	—	highly positive.

In the 1991 GSS, the non-response proportion for the ABS is 11% — one of the highest for any variable in the GSS. As the Bradburn scale is very subjective,[9] most respondents who completed the GSS by proxy were not asked the questions in Section P. Non-responses due to proxy interviews account for 30% of the total non-response rate. In addition, if the respondent did not answer one of the 10 questions in Section P, the ABS score was not calculated. (Some respondents may have chosen not to answer a question because the meaning was not clear for them. Bradburn designed the scale in 1969, and some of the items contain idioms with which 1991 respondents may have been unfamiliar. In particular, difficulty with the term "on top of the world" was reported by some GSS interviewers; previous researchers have also noted this.[10]) Interpreting the meaning of the non-response is discussed further below.

4.2.2 Satisfaction with Job or Main Activity

Satisfaction with job or main activity was measured by Question N2b (Appendix II). The satisfaction question was preceded by a series of questions that inquire about the nature of the job or main activity, and satisfaction with job or main activity as reported in this chapter is not restricted to paid work. Respondents were asked "Are you satisfied or dissatisfied with your job or main activity?" Once general satisfaction or dissatisfaction had been ascertained, respondents were asked "Is that somewhat or very?," thus yielding a four-point scale. The two levels of dissatisfaction have been combined into "dissatisfied" in reporting results because extreme dissatisfaction was rare.

This satisfaction measure has been used in all past cycles of the GSS, although exact phrasing and response options have varied. The non-response rate was 6%, which is comparable with rates from past surveys for this question. However, this rate varies considerably according to the respondent's age and labour force status.

4.3 RESULTS

4.3.1 Emotional Well-Being

Overall, twice as many Canadian adults are classified on the Bradburn scale as highly positive (16%) as negative (8%). Almost two-thirds (65%) fall into the middle category, denoting low-positive,

neutral, or mixed feelings about their emotional well-being (Table 4-1).

Age and sex

There is a greater tendency for women to report highly positive well-being (17%) than men (14%), but there is little difference between the sexes in unhappy feelings (9% vs. 8%). The proportion of Canadians who are more negative than positive varies little across age groups (8% overall). The most notable exception, is young women aged 15-24, 11% of whom report negative feelings. The highest rates of positive well-being are at ages 45 to 64 for both men and women (Table 4-1). Men and women aged 75 and older have the lowest rates of happiness for their respective sexes (8% and 11% highly positive, respectively).

Province

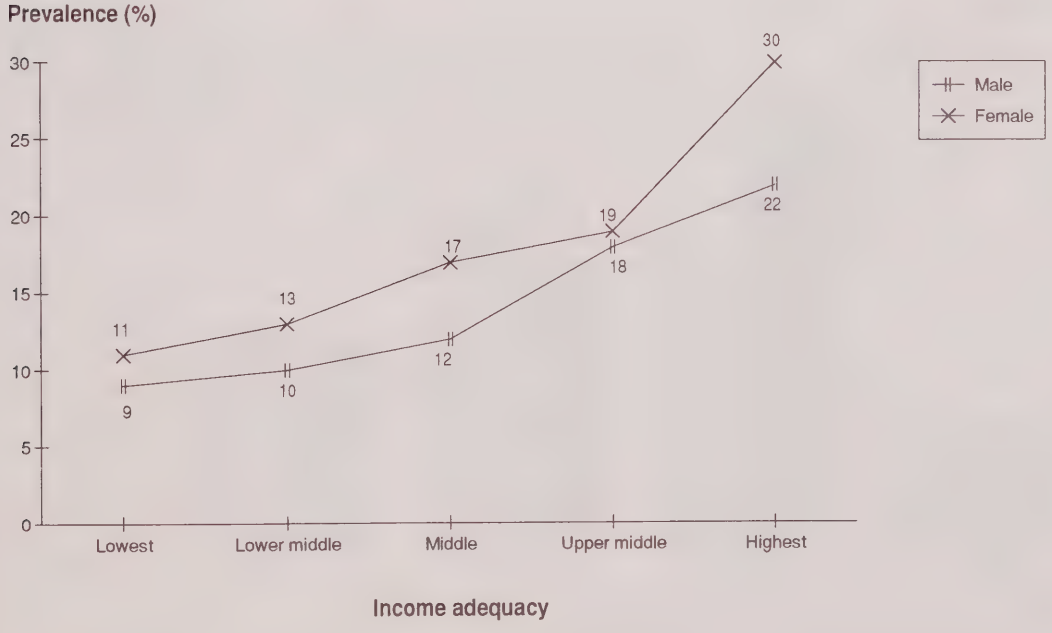
Highly positive ABS scores vary quite widely by province, from high values of 21% in British Columbia and 20% in Nova Scotia to a low of 13% in Ontario (Table 4-2). Negative scores are most common in Quebec (12%) and least common in western Canada (6% in each of the four western provinces).

Among men, positive well-being is most apparent in British Columbia (20%), Prince Edward Island (19%), and Newfoundland (19%). Women in British Columbia, Alberta, and Nova Scotia (22% each) are more likely than other Canadian women to have highly positive ABS scores.

Income adequacy

Emotional and financial well-being are linked for both sexes (Figure 4-A). Only one in 10 (10%) individuals in the lowest income group is highly positive, compared to one in four (25%) in the highest group (data not shown). The relationship between happiness and income adequacy appears to be somewhat stronger for women than for men.

FIGURE 4-A
Prevalence (%) of "high positive" affect balance scale scores by income adequacy and sex, age 15+, Canada, 1991



General Social Survey, 1991

Marital status

There are pronounced differences in emotional well-being associated with marital status. Married Canadians, including those living common law, are the least likely to score negatively on the ABS and the most likely to be classified positively (Figure 4-B). Six percent of this group score negatively, compared to 11% of the singles (never married), 16% of the separated/divorced group, and 16% of widowed adults (data for "both sexes" not shown). By gender, there are few differences across marital status groups in emotional well-being. The most notable difference: a large proportion of widowed men score negatively, 22% scoring as unhappy on the ABS, as compared to 14% of widowed women.

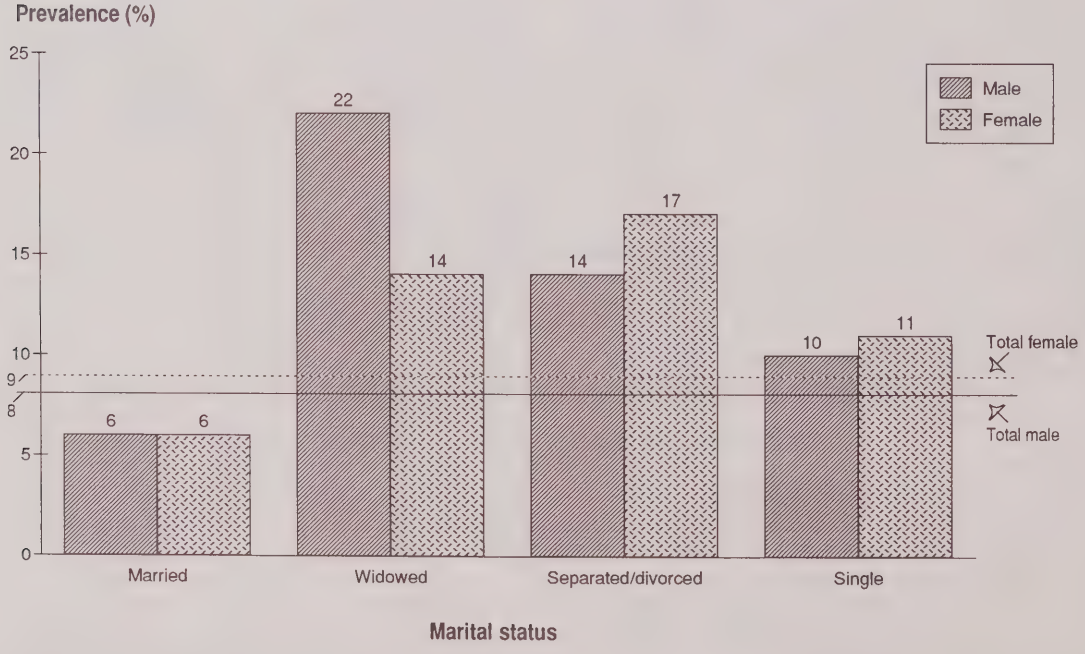
Pain and emotional well-being

There is a strong and direct relationship between negative affect and chronic suffering from pain (Text Table 4-A). Nearly one in four people (24%) who live with severe pain have negative feelings predominating over positive feelings. This is two times greater than the population that lives with mild pain (12%) and four times greater than the population that lives without pain (6%). Similarly, a greater proportion of people who live without pain (17%), compared to those who live with it (10%), have highly positive ABS scores.

Activity loss and emotional well-being

Emotional well-being is related to activity loss days in a manner similar to its relationship to pain (Text Table 4-B). Activity loss days are days when one's job or main activity (e.g., going to school, keeping house) is curtailed for health reasons (see also Chapter 3). Of those Canadians who *did not* require any days away from their job or main activity in the two weeks prior to the survey, 7% had negative ABS scores. This is the same as those who had only one or two days off, but one third the rate (22%) of those who had three or more days off.

FIGURE 4-B
Prevalence (%) of "negative" affect balance scale scores by marital status and sex, age 15+, Canada, 1991



General Social Survey, 1991

TEXT TABLE 4-A
Affect Balance Scale scores by level of pain, age 15+, Canada, 1991

Level of pain	Affect Balance Scale scores				
	Total	Negative	Neutral/ low positive	High positive	Not stated
	(Percent)				
Total population	100	8	65	16	11
None	100	6	66	17	10
Total with pain	100	16	62	10	12
Mild	100	12	68	10	10
Moderate	100	16	61	10	13
Severe	100	24	54	8	13
Not stated	100	--	--	--	74

General Social Survey, 1991

TEXT TABLE 4-B
Affect Balance Scale scores by activity loss days, age 15+, Canada, 1991

Activity loss days	Affect Balance Scale scores				
	Total	Negative	Neutral/ low positive	High positive	Not stated
	(Percent)				
Total population	100	8	65	16	11
No loss	100	7	69	16	8
Total with loss days	100	14	66	12	7
1–2 days	100	7	73	13	7
3+ days	100	22	58	12	8
Not stated	100	--	51	--	--

General Social Survey, 1991

4.3.2 Satisfaction with Job or Main Activity

The vast majority of Canadians express satisfaction with their job or main activity. Over half (55%) are very satisfied, and another 28% are somewhat satisfied (Table 4-3). Only 11% express dissatisfaction. However, both satisfaction and dissatisfaction vary greatly according to the nature of the activity. For those Canadians who are working, in school, keeping house, or retired, the general level of dissatisfaction ranges from 7 to 10% of the population. The two remaining groups, those looking for work and "other" (primarily people who are chronically ill or disabled), are highly dissatisfied (46% and 45%, respectively). Overall, there is little difference between men and women in satisfaction with job or main activity. An exception is the much higher level of dissatisfaction among men keeping house compared to their female counterparts (36% vs. 9%). Until confirmed by future research, this finding should be viewed cautiously, however, as the estimate of the number of men keeping house has high sampling variance and therefore the results could have been susceptible to extreme scores.

Age and sex

The proportion of Canadians who report that they are very satisfied with their job or main activity is fairly consistent across all age groups up to ages 75 and over, when it decreases markedly for both men and women (Table 4-4). Interestingly, the level of "non-response/no opinion" increases markedly with age for both sexes.

Province

High levels of satisfaction with job or main activity vary only slightly according to province of residence — from a high of 57% in Ontario and Prince Edward Island to a low of 50% in New Brunswick (Table 4-5). The ranges are more striking when each sex is considered separately. Among men, dissatisfaction with job or main activity is highest in Newfoundland (18%) and lowest in New Brunswick and Manitoba (10%). Women are most likely to be dissatisfied with their job or main activity in Quebec (14%) and least likely to be dissatisfied in Ontario (7%).

Income adequacy

There is a strong positive relationship between satisfaction with job or main activity and income adequacy (Figure 4-C). Nearly one quarter of Canadians (23%) in the lowest group report dissatisfaction with their job or main activity, compared to only 6% of those in the highest group (data for both sexes not shown).

Across all levels except the highest, men are more likely than women to report dissatisfaction. This is most pronounced within the lower middle group, where 24% of the men but only 14% of the women report dissatisfaction. In general, as income adequacy increases, the disparity between the dissatisfaction rates reported by men and women lessens, until the highest bracket, where it disappears.

4.4 DISCUSSION

4.4.1 Comparisons with 1978-79

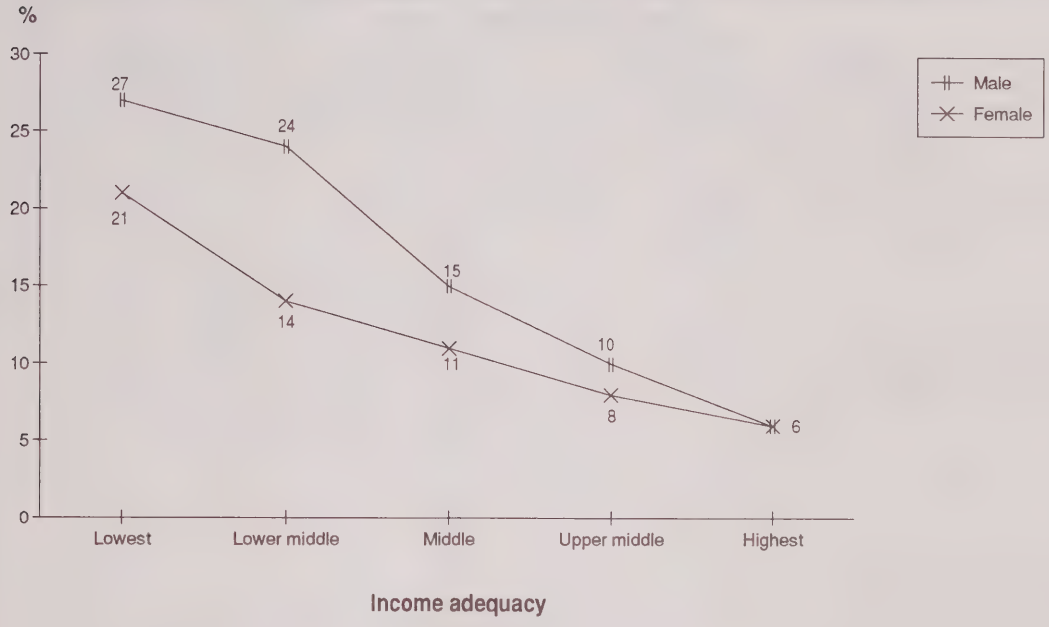
In order to assess how the emotional health of Canadians has changed over time, data from the 1978-79 Canada Health Survey were regrouped using the categories described above. Consequently, the results presented here are different from those in the Canada Health Survey report.[4]

Compared to 1978-79 (Text Table 4-C), more Canadians in 1991 were highly positive on the ABS (an increase from 9% to 16%) and fewer were negative (from 12% to 8%). These trends are demonstrated for both men and women and across all age groups. It is worth noting the substantial increase in highly positive well-being among women of all ages (from 10% to 17%), especially among women aged 45 to 64 (from 10% to 20%). The level of "not stated" responses is very similar for the two surveys, with the exception of a decline among women aged 45 to 64 (five percentage points).

4.4.2 Substantive Issues

The results reported in this chapter include measures of emotional well-being and satisfaction. While both are measures of positive mental

FIGURE 4-C
Dissatisfaction with job or main activity by income adequacy and sex, age 15+, Canada, 1991



General Social Survey, 1991

health, they are distinct measures. Satisfaction, as reported in this chapter, is specific to one's job or main activity, while the Bradburn Affect Balance Scale is a global measure. Despite this distinction, these measures have similar implications for health planners.

In spite of the apparent increase in the well-being of Canadians, there are still, in 1991, some groups who stand out as low in emotional well-being. These include the elderly, widowed men, women aged 15 to 24, lower-income individuals, people living with pain, and people who require substantial days off from their job or main activity. These groups are not mutually exclusive, and future research should take account of multiple-group membership. In general, these patterns are consistent with the results from earlier Canadian surveys using the Bradburn scale.[4,6]

Provinces or age groups that are lowest in positive affect are not always the same as those highest in negative affect, and vice versa. Further, positive affect and satisfaction with job or main activity appear to be independent properties, at least in the aggregate. For example, Ontario residents have the highest level of satisfaction with their job or main activity but the lowest level of positive affect overall. Further research is needed to examine these relationships, taking account of labour force status and occupation, among other factors (see also Chapter 6). Similarly, the relationship of marital status to positive affect needs further analysis, taking account of age.

As the results in this chapter demonstrate, just slightly more than half of all Canadians (55%) are very satisfied with their job or main activity, and an additional 28% are somewhat satisfied. Satisfaction with job or main activity correlates positively with measures of socio-economic status, such as income and labour force status. It is not surprising that those looking for work reported the highest levels of dissatisfaction in 1991, and that dissatisfaction with job or main activity is most keenly felt in Newfoundland, which has the second lowest level of disposable income in Canada.[11] (However, it is intriguing that

TEXT TABLE 4-C
Affect Balance Scale scores by age group and sex, age 15+, Canada, 1978-79 and 1991

Sex and age group	Affect Balance Scale scores							
	Negative		Neutral/ low positive		High positive		Not stated	
	1978-79	1991	1978-79	1991	1978-79	1991	1978-79	1991
	(Percent)							
Population 15+	12	8	69	65	9	16	10	11
Male	11	8	71	66	9	14	9	12
Female	13	9	67	65	10	17	10	10
15-24	15	9	73	73	7	13	4	5
Male	13	8	75	74	7	12	5	6
Female	17	11	72	72	8	13	4	4
25-44	11	8	73	68	10	16	6	8
Male	10	8	76	68	9	15	5	9
Female	12	8	71	68	10	17	6	7
45-64	10	8	66	62	10	18	14	12
Male	9	7	66	63	10	17	14	13
Female	11	9	65	61	10	20	15	10
65+	12	9	53	53	11	13	24	25
Male	10	8	57	52	9	12	24	29
Female	13	9	51	54	12	15	25	23

Canada Health Survey, 1978-79
General Social Survey, 1991

Prince Edward Island, with the lowest disposable income in Canada,[11] has one of the lowest rates of dissatisfaction with job or main activity.) Documenting the health burden of the recession is beyond the scope of this analysis, but even this brief review of findings makes it clear that the economy plays a major role in shaping the emotional well-being of Canadians. Even among those who are currently working, job satisfaction is negatively related to exposure to health hazards in the workplace and positively related to access to health-related employment benefits (see Chapter 6).

In the aggregate, these findings suggest that youth, those looking for work, and those with low incomes express relatively high levels of dissatisfaction with their job or main activity. As noted above with regard to the ABS scores, these groups are not mutually exclusive, and it is likely that those who fall into more than one category will be especially dissatisfied.

4.4.3 Methodological Issues

The Bradburn scale has been used in many Canadian surveys and is regarded as an efficient measure of well-being. The question wording has been consistent over the years, and comparisons are readily made as long as scoring differences are taken into account. The major complication with the Bradburn scale is interpreting the high level of non-response. Overall, this was quite similar in 1978-79 and 1991; however, for some groups, such as women aged 45 and over and men 65 years and over, non-response changed substantially. In effect, this means that there is as much as an additional five percentage points in the three ABS categories, thereby complicating the comparisons over the years.

Similar complications arise with the comparison of age groups within the cross-sectional data: non-response by the oldest age group in 1991 is a full 20 percentage points higher than for the youngest

age group. The level of non-response to the satisfaction measure is similarly uneven in its distribution over the various demographic groups. Like the ABS, non-response on job or main activity satisfaction rises steadily with age. This may reflect some confusion about how to define one's main activity, but it may also indicate some ambivalent feelings or reluctance to report negative feelings.

Further research into the nature of this non-response is necessary in order to decide how best to treat it. If non-response is correlated with other measures of negative well-being, the "not stated category" could be reassigned to the negative ABS or satisfaction categories. If, on the other hand, the non-responses are independent of responses to other well-being questions and simply reflect a failure to understand one or two items, these responses could be averaged into the remaining categories.

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11. Statistics Canada. *System of national accounts, provincial economic accounts, annual estimates, 1981-1991*. Catalogue No. 13-213, Annual (Table 19).

TABLE 4-1
Bradburn Affect Balance Scale by sex and age group, age 15+, Canada, 1991

Sex and age group	Affect Balance Scale									
	Total population 15+		Negative		Neutral / low positive		High positive		Not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)									
Both sexes										
Population 15+	20,981	100	1,755	8	13,697	65	3,257	16	2,272	11
15-24 years	3,793	100	356	9	2,768	73	484	13	185	5
25-44 years	9,005	100	742	8	6,106	68	1,426	16	732	8
45-64 years	5,275	100	404	8	3,288	62	959	18	624	12
65+ years	2,908	100	253	9	1,536	53	388	13	731	25
65-74 years	1,824	100	155	8	1,021	56	284	16	365	20
75+ years	1,084	100	99	9	515	47	104	10	366	34
Male										
Population 15+	10,266	100	798	8	6,767	66	1,467	14	1,234	12
15-24 years	1,935	100	150	8	1,432	74	236	12	117	6
25-44 years	4,476	100	376	8	3,036	68	654	15	410	9
45-64 years	2,611	100	173	7	1,654	63	433	17	351	13
65+ years	1,245	100	99	8	645	52	145	12	356	29
65-74 years	796	100	63	8	440	55	110	14	183	23
75+ years	448	100	36	8	205	46	35	8	173	39
Female										
Population 15+	10,715	100	957	9	6,930	65	1,790	17	1,038	10
15-24 years	1,857	100	205	11	1,336	72	248	13	68	4
25-44 years	4,530	100	366	8	3,070	68	773	17	322	7
45-64 years	2,664	100	231	9	1,634	61	526	20	273	10
65+ years	1,664	100	155	9	890	54	243	15	375	23
65-74 years	1,028	100	92	9	581	57	173	17	182	18
75+ years	636	100	63	10	309	49	70	11	194	30

General Social Survey, 1991

TABLE 4-2
Bradburn Affect Balance Scale by sex and province, age 15+, Canada, 1991

Sex and province	Affect Balance Scale									
	Total population 15+		Negative		Neutral / low positive		High positive		Not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)									
Both Sexes										
Canada	20,981	100	1,755	8	13,697	65	3,257	16	2,272	11
Atlantic	1,806	100	156	9	1,170	65	332	18	148	8
Newfoundland	438	100	37	9	280	64	82	19	39	9
Prince Edward Island	98	100	8	8	68	69	17	17	6	7
Nova Scotia	704	100	62	9	442	63	140	20	59	8
New Brunswick	566	100	49	9	380	67	93	16	44	8
Quebec	5,384	100	653	12	3,831	71	789	15	111	2
Ontario	7,778	100	587	8	5,086	65	993	13	1,111	14
Prairies	3,482	100	205	6	2,174	62	617	18	486	14
Manitoba	839	100	53	6	515	61	122	15	148	18
Saskatchewan	742	100	44	6	486	66	127	17	85	11
Alberta	1,901	100	108	6	1,172	62	368	19	254	13
British Columbia	2,532	100	154	6	1,437	57	527	21	414	16
Male										
Canada	10,266	100	798	8	6,767	66	1,467	14	1,234	12
Atlantic	885	100	61	7	601	68	144	16	80	9
Newfoundland	217	100	13	6	143	66	40	19	20	9
Prince Edward Island	48	100	– –	– –	31	65	9	19	3	6
Nova Scotia	343	100	23	7	231	67	59	17	30	9
New Brunswick	277	100	20	7	195	70	35	13	27	10
Quebec	2,617	100	290	11	1,939	74	328	13	60	2
Ontario	3,796	100	288	8	2,389	63	490	13	629	17
Prairies	1,725	100	96	6	1,109	64	257	15	264	15
Manitoba	411	100	23	6	258	63	52	13	78	19
Saskatchewan	367	100	27	7	246	67	48	13	45	12
Alberta	948	100	46	5	604	64	157	17	140	15
British Columbia	1,243	100	64	5	730	59	249	20	201	16
Female										
Canada	10,715	100	957	9	6,930	65	1,790	17	1,038	10
Atlantic	921	100	96	10	569	62	188	20	68	7
Newfoundland	221	100	24	11	136	62	42	19	19	9
Prince Edward Island	50	100	– –	– –	36	72	7	14	– –	– –
Nova Scotia	361	100	40	11	212	59	81	22	29	8
New Brunswick	289	100	29	10	185	64	59	20	17	6
Quebec	2,767	100	363	13	1,892	68	460	17	52	2
Ontario	3,982	100	299	8	2,697	68	503	13	482	12
Prairies	1,756	100	108	6	1,065	61	360	21	223	13
Manitoba	428	100	30	7	257	60	71	17	70	16
Saskatchewan	375	100	17	4	240	64	79	21	40	11
Alberta	953	100	61	6	568	60	211	22	113	12
British Columbia	1,288	100	90	7	707	55	278	22	214	17

General Social Survey, 1991

TABLE 4-3
Satisfaction with job or main activity by sex and main activity in 12 months preceding survey, age 15+, Canada, 1991

Sex and main activity	Satisfaction with job or main activity									
	Total population 15+		Dissatisfied		Somewhat satisfied		Very satisfied		No opinion/ not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)									
Both sexes										
Total main activity	20,981	100	2,298	11	5,931	28	11,596	55	1,155	6
Working	11,505	100	1,091	9	3,255	28	6,818	59	341	3
Looking for work	565	100	260	46	150	27	100	18	54	10
School	2,371	100	216	9	738	31	1,362	57	54	2
Keeping house	3,496	100	346	10	1,048	30	1,852	53	250	7
Retired	2,569	100	182	7	616	24	1,399	54	372	14
Other	453	100	203	45	124	27	65	14	62	14
Not stated	--	--	--	--	--	--	--	--	--	--
Male										
Total main activity	10,266	100	1,235	12	2,912	28	5,560	54	559	5
Working	6,755	100	660	10	1,932	29	3,946	58	217	3
Looking for work	381	100	171	45	105	27	59	16	--	--
School	1,209	100	103	9	387	32	683	57	--	--
Keeping house	82	100	29	36	29	36	--	--	--	--
Retired	1,501	100	125	8	363	24	815	54	198	13
Other	320	100	146	46	96	30	39	12	40	12
Not stated	--	--	--	--	--	--	--	--	--	--
Female										
Total main activity	10,715	100	1,063	10	3,020	28	6,036	56	596	6
Working	4,750	100	431	9	1,323	28	2,872	60	124	3
Looking for work	184	100	89	48	45	25	41	22	--	--
School	1,162	100	113	10	351	30	679	58	--	--
Keeping house	3,414	100	317	9	1,019	30	1,835	54	244	7
Retired	1,068	100	57	5	253	24	584	55	174	16
Other	133	100	57	43	28	21	26	20	--	--
Not stated	--	--	--	--	--	--	--	--	--	--

General Social Survey, 1991

TABLE 4-4
Satisfaction with job or main activity by sex and age group, age 15+, Canada, 1991

Sex and age group	Satisfaction with job or main activity									
	Total population 15+		Dissatisfied		Somewhat satisfied		Very satisfied		No opinion/ not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)									
Both sexes										
Population 15+	20,981	100	2,298	11	5,931	28	11,596	55	1,155	6
15-24 years	3,793	100	503	13	1,251	33	1,955	52	83	2
25-44 years	9,005	100	1,095	12	2,523	28	5,037	56	351	4
45-64 years	5,275	100	522	10	1,435	27	3,027	57	291	6
65+ years	2,908	100	179	6	722	25	1,577	54	430	15
65-74 years	1,824	100	124	7	434	24	1,060	58	206	11
75+ years	1,084	100	55	5	288	27	517	48	224	21
Male										
Population 15+	10,266	100	1,235	12	2,912	28	5,560	54	559	5
15-24 years	1,935	100	240	12	682	35	962	50	--	--
25-44 years	4,476	100	634	14	1,266	28	2,387	53	188	4
45-64 years	2,611	100	277	11	655	25	1,525	58	154	6
65+ years	1,245	100	84	7	310	25	686	55	165	13
65-74 years	796	100	62	8	184	23	475	60	75	9
75+ years	448	100	--	--	126	28	211	47	90	20
Female										
Population 15+	10,715	100	1,063	10	3,020	28	6,036	56	596	6
15-24 years	1,857	100	263	14	570	31	994	54	31	2
25-44 years	4,530	100	461	10	1,257	28	2,649	58	162	4
45-64 years	2,664	100	244	9	780	29	1,502	56	137	5
65+ years	1,664	100	95	6	413	25	891	54	265	16
65-74 years	1,028	100	62	6	250	24	585	57	131	13
75+ years	636	100	33	5	163	26	306	48	134	21

General Social Survey, 1991

TABLE 4-5
Satisfaction with job or main activity by sex and province, age 15+, Canada, 1991

Sex and province	Total population 15+		Satisfaction with job or main activity							
			Dissatisfied		Somewhat satisfied		Very satisfied		No opinion/ not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)									
Both sexes										
Canada	20,981	100	2,298	11	5,931	28	11,596	55	1,155	6
Atlantic	1,806	100	230	13	544	30	972	54	60	3
Newfoundland	438	100	63	14	116	26	241	55	17	4
Prince Edward Island	98	100	10	10	31	31	56	57	--	--
Nova Scotia	704	100	97	14	192	27	394	56	21	3
New Brunswick	566	100	60	11	205	36	281	50	21	4
Quebec	5,384	100	686	13	1,563	29	2,910	54	225	4
Ontario	7,778	100	724	9	2,073	27	4,414	57	567	7
Prairies	3,482	100	368	11	1,006	29	1,871	54	236	7
Manitoba	839	100	83	10	255	30	436	52	65	8
Saskatchewan	742	100	77	10	223	30	378	51	64	9
Alberta	1,901	100	208	11	529	28	1,057	56	108	6
British Columbia	2,532	100	291	11	745	29	1,429	56	66	3
Male										
Canada	10,266	100	1,235	12	2,912	28	5,560	54	559	5
Atlantic	885	100	125	14	274	31	457	52	30	3
Newfoundland	217	100	38	18	60	28	109	50	--	--
Prince Edward Island	48	100	--	--	15	32	26	54	--	--
Nova Scotia	343	100	55	16	95	28	188	55	--	--
New Brunswick	277	100	26	10	104	37	134	48	13	5
Quebec	2,617	100	311	12	738	28	1,477	56	92	4
Ontario	3,796	100	437	12	973	26	2,083	55	303	8
Prairies	1,725	100	206	12	542	31	872	51	106	6
Manitoba	411	100	42	10	125	30	213	52	31	7
Saskatchewan	367	100	44	12	114	31	181	49	28	8
Alberta	948	100	120	13	303	32	478	50	47	5
British Columbia	1,243	100	157	13	386	31	672	54	29	2
Female										
Canada	10,715	100	1,063	10	3,020	28	6,036	56	596	6
Atlantic	921	100	105	11	270	29	516	56	31	3
Newfoundland	221	100	25	12	56	25	133	60	--	--
Prince Edward Island	50	100	--	--	16	31	30	60	--	--
Nova Scotia	361	100	42	12	97	27	206	57	15	4
New Brunswick	289	100	33	11	101	35	146	51	--	--
Quebec	2,767	100	375	14	825	30	1,433	52	133	5
Ontario	3,982	100	287	7	1,100	28	2,331	59	264	7
Prairies	1,756	100	162	9	465	26	999	57	131	7
Manitoba	428	100	42	10	130	30	223	52	34	8
Saskatchewan	375	100	33	9	109	29	197	53	36	10
Alberta	953	100	87	9	226	24	579	61	61	6
British Columbia	1,288	100	134	10	360	28	758	59	37	3

General Social Survey, 1991

CHAPTER 5

WEIGHT AND HEIGHT

5.1 HIGHLIGHTS

- Approximately 7.7 million Canadians aged 20 to 64 have an acceptable weight for their height.
- Approximately 3.7 million Canadians are at risk of developing health problems because of excess body weight. This estimate represents 23% of the population aged 20 to 64.
- The prevalence of being overweight is greater among men (28%) than among women (18%).
- About 1.5 million adults representing about 9% of the population aged 20 to 64 are underweight. The prevalence of being underweight is greater among women (15%) than among men (3%).
- The highest prevalence of being underweight occurs among young women aged 20 to 24. About 25% of women in this age group are underweight. Young women in British Columbia (33%) and Quebec (28%) are most likely to be underweight.
- Among adults who are overweight, men are more likely than women to regard their current weight as "just about right." Women, on the other hand, are likely to regard themselves as overweight, even when their relative weight is within the desirable range from a health perspective.
- Compared to persons who have a normal weight for their height, persons who are overweight have a higher prevalence of hypertension, heart trouble, arthritis and rheumatism, and high blood cholesterol.

5.2 METHODS

Height and weight values in the 1991 GSS were reported by the respondent (Section G, Appendix II). Respondents were asked "How tall are you without your shoes on?" (Ques. G2) and "How much do you weigh?" (Ques. G3). These estimates could be provided in either imperial or metric units. Respondents were also asked to assess their own weight, that is, whether they considered themselves to be "overweight, underweight, or just about right" (Ques. G4).

The Quetelet or Body Mass Index (BMI) was chosen as a measure of weight for height.[1] The BMI is defined as body weight (kg) divided by the square of body height (m^2) and is calculated for ages 20 to 64 only, as interpretive norms do not exist for younger and older age groups. "Not stated" values for the BMI arise when either height or weight was not provided. Overall, this amounts to only 3% of the population and does not exceed 5% in any age–sex group.

While various BMI cutoff points exist to classify individuals by relative body weight, for the purposes

of this report the cutoff points recommended by Health and Welfare Canada,[2] except as noted below are employed. Four levels of relative body weight are used in the Health and Welfare Canada classification:

BMI <20	may be associated with health problems
BMI 20–25	considered to be good weight for most people
BMI 25–27	may lead to health problems in some people
BMI >27	increasing risk of developing health problems

For the present chapter, the second BMI category is defined as 20 to <25. In the chapter, the term "overweight" refers to a BMI greater than 27. The term "obese" is not appropriate, however, as this term refers specifically to an excess of body fat, which cannot adequately be measured by answers to questions alone.

5.3 RESULTS

5.3.1 Prevalence of Acceptable Weight

In total, 47% of Canadian adults aged 20-64 years have an acceptable weight for their height. Fifty percent of women have an acceptable weight compared to 44% of males. At age 20-24, the proportion of males with an acceptable weight for height is 61% compared to 53% among females. However, for ages 25-64, women are more likely to have an acceptable weight for their height.

5.3.2 Prevalence of Being Overweight

Age and sex

Approximately 3.7 million Canadians are overweight (BMI > 27). This estimate represents 23% of the population aged 20 to 64 (Table 5-1). In the total population, the proportion of adults who are overweight tends to increase with advancing age, at least up to ages 45 to 54. At ages 20 to 24, 10% of adults are overweight, compared to 21% in the 25 to 44 age group, 32% in the 45 to 54 age group, and 30% among persons aged 55 to 64 years.

Overall, 28% of men are overweight, compared to 18% of women. Between ages 20 and 54, the prevalence of being overweight is considerably greater among men than among women at all ages, but the difference diminishes at ages 55 to 64 (Figure 5-A).

At the opposite end of the relative body weight continuum are persons whose BMI is less than 20. About 9% of the population aged 20 to 64 (representing 1.5 million Canadians) is underweight. The prevalence of being underweight is greatest in the 20 to 24 age group (15%) and declines with increasing age. In general, women are more likely than men to be classified as underweight (15% vs. 3%, respectively). This tendency is true at all age levels but is most noticeable in the 20 to 24 age group. Twenty-five percent of women aged 20 to 24 are underweight, compared to 6% of men in this age group (Table 5-1).

Provincial differences

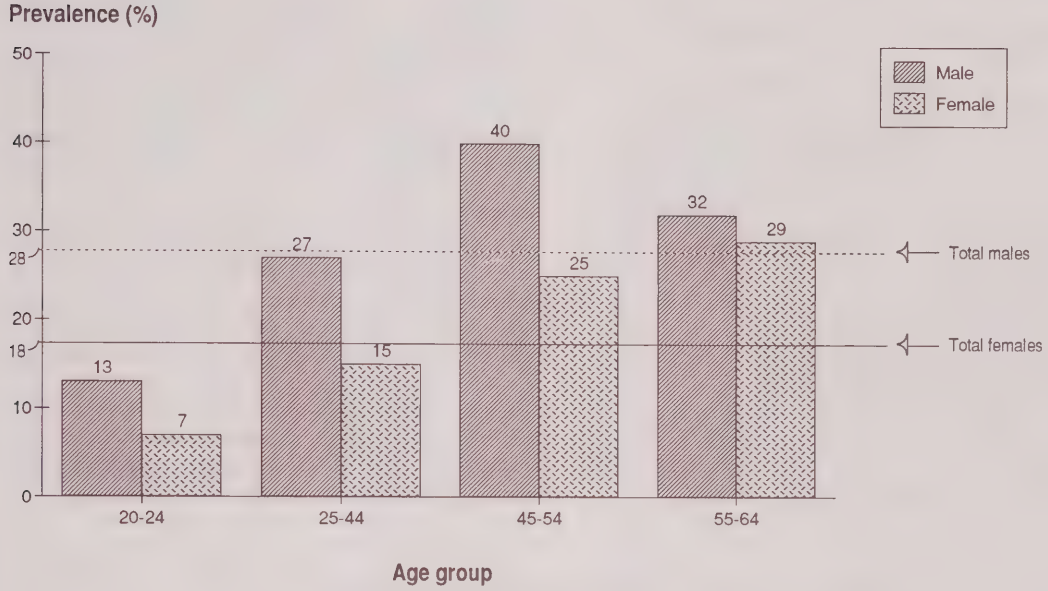
There are fairly wide variations between provinces in the prevalence of being overweight, ranging from high values of 30-31% in Newfoundland, Nova Scotia, and Saskatchewan to lows of 21-22% in Quebec and Ontario (Table 5-2). Among men, Newfoundland stands out, with a prevalence of 39% overweight, while Ontario is the lowest, at 25%. The pattern is different for women: women in Nova Scotia are most likely to be overweight (26%), and women in Quebec and Ontario are least likely (17%).

There are also noteworthy provincial differences in the prevalence of being underweight (BMI <20): Quebec, at 11%, has more than double the prevalence of Nova Scotia (5%). As noted above, underweight Canadians are predominantly women, among whom the prevalence of being underweight ranges from 18% (Quebec) to 9% (Atlantic provinces). For women aged 20 to 24, the highest prevalence of being underweight is in British Columbia (33%) and Quebec (28%) (data not shown).

Income adequacy

Table 5-3 shows the association between income adequacy and relative weight. In the total population aged 20 to 64, the prevalence of being overweight varies little by income level and is actually lowest for the lowest income group. The usual inverse relationship between being overweight and socio-economic status is found only among those aged 25 to 44; even in this age group the relationship is a weak one. For age

FIGURE 5-A
Prevalence (%) of being overweight (BMI>27) by age group and sex, ages 20-64, Canada, 1991



General Social Survey, 1991

groups 45 to 54 and 55 to 64, there is a tendency for the prevalence of being overweight to *increase* with income. On the other hand, the prevalence of being underweight is consistently associated with less income across all age groups.

The lack of a strong gradient in the prevalence of overweight by income groups appears to be associated with sex differences. Among both males and females, there are three distinct groups. Persons in the lowest income category form the first group, persons in the lower middle to upper middle income levels form the second group and persons with the highest income level form the last group. Over these three groups, there is a gradient in the prevalence of being overweight. Twenty-one percent of males in the lowest income group are overweight compared to 29% of males in the middle group and 32% of males in the highest income group (data not shown). In contrast, among women, 23% of women in the lowest income group are overweight compared to approximately 18% of women in the middle income group and 14% in the highest income group (data not shown separately by sex).

5.3.3 Overweight and Smoking

Table 5-4 displays the distribution of relative weight within smoking categories. Because of the relationship of age and sex to BMI (see Table 5-1), it is desirable to control for these variables, but sample size limits the data to only two age groups, 20 to 44 and 45 to 64. In the total population, the greatest contrast is between former smokers and regular smokers. About 31% of former smokers are overweight, compared to 21% of regular smokers and 21% of persons who never smoked daily. This is true of both sexes, although less so for women than for men, and for both age groups, although less for the younger than for the older. Thus, among men aged 45 to 64 who are former smokers, 45% are overweight; this compares with 36% of all men in this age

group, and 29% who are regular smokers. Among younger women (ages 20 to 44), 17% of former smokers are overweight, compared to only 14% of the overall group.

5.3.4 Body Mass Index and Self-Assessed Weight

The relationship between being overweight, as classified by BMI values, and self-perceptions of being overweight is high, but it is not a perfect correlation. Among adults who were overweight, 84% considered themselves to be overweight. The remaining 16% considered their weight to be "just about right" (Table 5-5). The tendency of overweight persons to consider their weight to be acceptable is much more prevalent among men than among women. Only 7% of overweight women consider their weight to be just about right, compared to 21% of overweight men. Similarly, of those with a BMI of 25–27 (possibly overweight), 83% of women and only 43% of men considered themselves to be overweight.

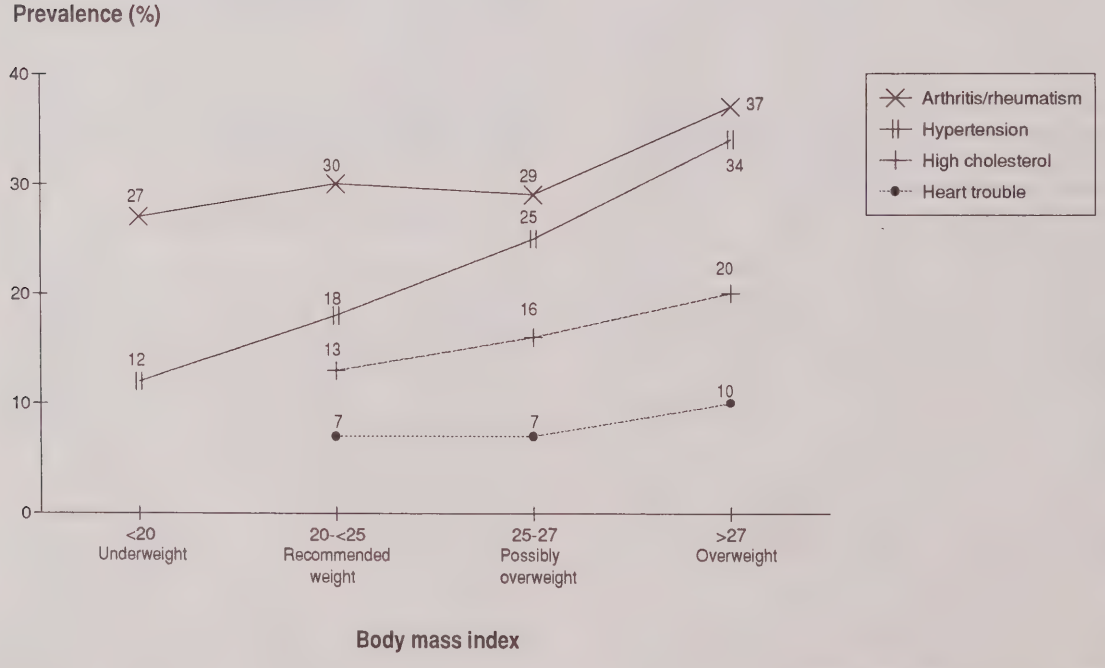
Among those classified as underweight (BMI <20), 48% of men considered themselves underweight, compared to only 21% of women. Over three quarters of the women in this category considered themselves to be "just about right."

These patterns are repeated for all age groups (data not shown).

5.3.5 Relative Weight and Self-Reported Health Problems

In the total population aged 20 to 64, the prevalence of selected self-reported health problems increases with increasing BMI (Table 5-6). However, as both relative weight and most chronic health problems increase with advancing age (see Chapter 2), it is instructive to examine the prevalence of health problems by BMI categories *within age groups*. For example, among adults aged 45 to 64, the prevalence of arthritis/rheumatism, hypertension, high cholesterol, and heart trouble all increase rather dramatically with increases in relative body weight (Figure 5-B).

FIGURE 5-B
Prevalence (%) of health problems by body mass index, ages 45-64, Canada, 1991



General Social Survey, 1991

5.4 DISCUSSION

5.4.1 Methodological Issues

Because the BMI is derived from self-reported information, there is a possibility of misclassification of relative weight. In particular, the overweight category may be underestimated as a result of height being exaggerated or weight being minimized during the interview.[3] Moreover, the tendency to underreport weight may vary from one survey to the next as a function of the historical context of the survey. Fads and fashions dictate desirable weight norms, and survey responses may be influenced by a person's perception of current social norms relating to relative body weight.[4] However, such changes are unlikely to be significant over a period of five or six years.

The assumption in this report and others on this topic is that whatever bias exists affects all age groups equally and that the relative differences between age or social groups are valid. Comparisons between the sexes are less meaningful, not just because of the possibility of different degrees of reporting bias, but also because men tend to be more muscular than women, and muscle tissue is more dense than fat. This tends to increase the BMI value of a muscular individual.

The prevalence of overweight in a population is dependent on a complex set of medical, genetic, nutritional and lifestyle related factors. The validity of self-reported data relating to weight and height as a means of monitoring population health status and the circumstances in which BMI may be most profitably employed as a health status indicator are worthy of further investigation. Self-reported weight and height data have not been collected long enough in a series of surveys to determine whether these measures are valid indicators of trends in health status.

5.4.2 Changes Over Time in the Prevalence of Being Overweight

Comparison of the 1985[5] GSS with the 1991 GSS reveals that the body mass distribution of the population has shifted towards the overweight end of the continuum. During this six-year period, the prevalence of being overweight increased six percentage points among men (from 22% to 28%) and five percentage points among women (from 14% to 19%) (Text Table 5-A). Among women, there was also a notable decrease of four percentage points (from 20% to 16%) in the prevalence of being underweight. This increase in the overweight population is consistent with the results of the two Health Promotion Surveys, conducted in 1985[6] and 1990.[7]

5.4.3 Substantive Issues

Women appear to be much more concerned than men about being overweight. At all ages, over one in three women (36%) who on the basis of self-reported weight and height are classified as normal weight express the view that they are overweight (see Table 5-5). These data are consistent with reports indicating that the desire to reduce weight is particularly pronounced among women.[7,8]

A number of studies have considered the association between weight and smoking status.[9] Weight gain tends to be associated with smoking cessation and has been cited as a factor that inhibits the motivation of smokers to quit.[10] It has also been suggested that some individuals take up smoking with the intention of controlling weight gain.[11] However, the 1991 GSS data suggest that being overweight is mainly a problem for former smokers who are middle-aged men and is not an issue for younger women; other GSS data reveal that the exercise levels of middle-aged men are much lower than they might be (see Chapter 10), and this may well be related to their overweight status.

The associations between being overweight and self-reported high blood pressure and heart problems are consistent with associations detected in other surveys and studies.[12] While the cross-sectional nature of the GSS data makes it impossible to conclude anything about cause and effect, the steep gradients (see Figure 5-B) and the high prevalence of being overweight point to a challenge for health promotion in Canada. Moreover, the association between being overweight and high cholesterol points to a compounding of risk.

As described elsewhere in this report (Chapters 9 and 10), the prevalence of smoking declined substantially between 1985 and 1991, and the prevalence of "active" leisure time increased modestly or not at all. These changes are consistent with an increase in the prevalence of being overweight between the 1985 GSS and the 1991 GSS.

TEXT TABLE 5-A
Body Mass Index by sex, ages 20 to 64, Canada, 1985, 1990 and 1991

	Body Mass Index				
		<20 (Under-weight)	20–<25 (Recommended weight)	25-27 (Possibly overweight)	>27 (Overweight)
		(Percent)			
Male					
1985 GSS	100	5	52	21	22
1985 HPS	100	5	56	19	20
1990 HPS	100	3	45	25	27
1991 GSS	100	3	45	24	28
Female					
1985 GSS	100	20	56	10	14
1985 HPS	100	23	52	11	14
1990 HPS	100	18	53	12	17
1991 GSS	100	16	52	13	19

Health Promotion Survey, 1985 and 1990
General Social Survey, 1985 and 1991

Notes:

1. Not stated values were excluded from the tabulations. The proportion of not stated ranged from 1% to 3%. The proportion of not stated tended to be higher among women.
2. HPS = Health Promotion Survey (also self-reported weight and height). 1985 data are from reference 6, 1990 data from reference 7.

The lack of association between being overweight and income is somewhat surprising, given the number of other surveys and studies that have documented such an association. For example, the Health Promotion Survey reported an inverse relationship between BMI and both education and income.[7] In the current survey, there is an inverse association with education (data not shown), but not income. Further examination of this relationship is called for, including the association between education and income.

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TABLE 5-1
Body Mass Index by age group and sex, ages 20-64, Canada, 1991

Age group and sex	Total population 20-64		Body Mass Index									
			Underweight		Recommended weight		Possibly overweight		Overweight		Not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)											
Population 20-64												
Both sexes	16,247	100	1,491	9	7,658	47	2,931	18	3,749	23	419	3
Male	8,086	100	228	3	3,541	44	1,909	24	2,254	28	153	2
Female	8,162	100	1,262	15	4,116	50	1,022	13	1,495	18	266	3
20-24 years												
Both sexes	1,967	100	299	15	1,118	57	296	15	197	10	58	3
Male	1,000	100	61	6	607	61	192	19	126	13	--	--
Female	968	100	238	25	511	53	104	11	71	7	44	5
25-44 years												
Both sexes	9,005	100	923	10	4,473	50	1,502	17	1,890	21	217	2
Male	4,476	100	135	3	2,065	46	1,020	23	1,189	27	66	1
Female	4,530	100	788	17	2,408	53	482	11	701	15	150	3
45-64 years												
Both sexes	5,275	100	269	5	2,066	39	1,133	21	1,663	32	144	3
Male	2,611	100	32	1	870	33	697	27	939	36	73	3
Female	2,664	100	237	9	1,196	45	436	16	723	27	72	3
45-54 years												
Both sexes	2,923	100	153	5	1,145	39	592	20	948	32	84	3
Male	1,458	100	--	--	461	32	372	25	576	40	--	--
Female	1,464	100	142	10	684	47	221	15	372	25	45	3
55-64 years												
Both sexes	2,352	100	116	5	921	39	541	23	714	30	60	3
Male	1,152	100	--	--	408	35	325	28	363	32	--	--
Female	1,200	100	95	8	512	43	216	18	351	29	26	2

General Social Survey, 1991

TABLE 5-2
Body Mass Index by sex and province, ages 20-64, Canada, 1991

Sex and province	Total population 20-64		Body Mass Index									
			Underweight		Recommended weight		Possibly overweight		Overweight		Not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)											
Both sexes												
Canada	16,247	100	1,491	9	7,658	47	2,931	18	3,749	23	419	3
Atlantic	1,362	100	74	5	598	44	274	20	396	29	20	1
Newfoundland	334	100	16	5	137	41	73	22	103	31	--	--
P.E.I.	69	100	--	--	34	50	12	17	19	27	--	--
Nova Scotia	532	100	29	5	230	43	105	20	161	30	--	--
New Brunswick	427	100	27	6	197	46	84	20	113	26	--	--
Quebec	4,238	100	476	11	2,010	47	759	18	942	22	51	1
Ontario	6,034	100	555	9	2,874	48	1,052	17	1,273	21	280	5
Prairies	2,681	100	221	8	1,237	46	482	18	685	26	56	2
Manitoba	625	100	52	8	268	43	120	19	168	27	--	--
Saskatchewan	542	100	37	7	231	43	102	19	164	30	--	--
Alberta	1,514	100	131	9	738	49	259	17	353	23	32	2
British Columbia	1,932	100	165	9	938	49	364	19	453	23	--	--
Male												
Canada	8,086	100	228	3	3,541	44	1,909	24	2,254	28	153	2
Atlantic	677	100	--	--	252	37	173	26	233	34	--	--
Newfoundland	166	100	--	--	56	33	43	26	64	39	--	--
P.E.I.	33	100	--	--	16	47	6	18	11	34	--	--
Nova Scotia	264	100	--	--	101	38	61	23	92	35	--	--
New Brunswick	213	100	--	--	81	38	62	29	66	31	--	--
Quebec	2,099	100	87	4	919	44	503	24	579	28	--	--
Ontario	2,997	100	78	3	1,362	45	677	23	763	25	118	4
Prairies	1,349	100	33	2	574	43	322	24	404	30	--	--
Manitoba	312	100	--	--	117	37	77	25	99	32	--	--
Saskatchewan	272	100	--	--	108	40	63	23	96	35	--	--
Alberta	765	100	--	--	348	46	182	24	209	27	--	--
British Columbia	964	100	--	--	435	45	233	24	274	28	--	--
Female												
Canada	8,162	100	1,262	15	4,116	50	1,022	13	1,495	18	266	3
Atlantic	686	100	64	9	345	50	101	15	162	24	12	2
Newfoundland	167	100	15	9	81	48	30	18	38	23	--	--
P.E.I.	36	100	--	--	19	52	6	17	7	21	--	--
Nova Scotia	268	100	23	8	130	48	43	16	69	26	--	--
New Brunswick	215	100	23	11	116	54	22	10	48	22	--	--
Quebec	2,139	100	389	18	1,091	51	256	12	363	17	40	2
Ontario	3,037	100	477	16	1,513	50	375	12	510	17	162	5
Prairies	1,332	100	188	14	663	50	160	12	281	21	40	3
Manitoba	313	100	40	13	151	48	43	14	69	22	--	--
Saskatchewan	270	100	32	12	123	45	40	15	68	25	--	--
Alberta	749	100	115	15	390	52	77	10	144	19	24	3
British Columbia	968	100	145	15	503	52	131	13	179	18	--	--

General Social Survey, 1991

TABLE 5-3
Body Mass Index by age group and income adequacy, ages 20-64, Canada, 1991

Age group and income adequacy	Total population 20-64		Body Mass Index									
			Underweight		Recommended weight		Possibly overweight		Overweight		Not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)											
Population 20-64 years												
Total	16,247	100	1,491	9	7,658	47	2,931	18	3,749	23	419	3
Lowest	558	100	85	15	244	44	83	15	125	22	--	--
Lower middle	1,113	100	123	11	515	46	170	15	276	25	29	3
Middle	3,702	100	335	9	1,783	48	669	18	860	23	56	2
Upper middle	5,124	100	458	9	2,358	46	1,000	20	1,259	25	49	1
Highest	1,997	100	128	6	1,007	50	354	18	497	25	--	--
Not stated	3,754	100	361	10	1,751	47	655	17	732	20	255	7
20-24 years												
Total	1,967	100	299	15	1,118	57	296	15	197	10	58	3
Lowest	94	100	--	--	54	58	--	--	--	--	--	--
Lower middle	151	100	30	20	75	50	--	--	--	--	--	--
Middle	421	100	64	15	221	52	84	20	34	8	--	--
Upper middle	508	100	87	17	295	58	67	13	54	11	--	--
Highest	181	100	--	--	104	58	--	--	--	--	--	--
Not stated	612	100	74	12	368	60	87	14	51	8	--	--
25-44 years												
Total	9,005	100	923	10	4,473	50	1,502	17	1,890	21	217	2
Lowest	257	100	49	19	104	40	33	13	63	25	--	--
Lower middle	617	100	75	12	291	47	88	14	145	23	--	--
Middle	2,247	100	223	10	1,155	51	355	16	481	21	34	2
Upper middle	3,064	100	293	10	1,472	48	588	19	686	22	--	--
Highest	1,047	100	77	7	600	57	153	15	208	20	--	--
Not stated	1,773	100	207	12	852	48	285	16	308	17	121	7
45-64 years												
Total	5,275	100	269	5	2,066	39	1,133	21	1,663	32	144	3
Lowest	206	100	--	--	86	42	38	18	53	26	--	--
Lower middle	345	100	--	--	149	43	62	18	107	31	--	--
Middle	1,035	100	49	5	407	39	231	22	345	33	--	--
Upper middle	1,552	100	78	5	590	38	346	22	520	33	--	--
Highest	769	100	--	--	303	39	174	23	265	34	--	--
Not stated	1,368	100	80	6	531	39	283	21	374	27	100	7
45-54 years												
Total	2,923	100	153	5	1,145	39	592	20	948	32	84	3
Lowest	87	100	--	--	41	47	--	--	--	--	--	--
Lower middle	126	100	--	--	62	49	--	--	34	27	--	--
Middle	510	100	--	--	199	39	107	21	178	35	--	--
Upper middle	978	100	55	6	374	38	217	22	320	33	--	--
Highest	569	100	--	--	217	38	126	22	205	36	--	--
Not stated	653	100	40	6	253	39	119	18	188	29	52	8
55-64 years												
Total	2,352	100	116	5	921	39	541	23	714	30	60	3
Lowest	119	100	--	--	45	38	27	23	29	24	--	--
Lower middle	219	100	--	--	87	40	50	23	73	33	--	--
Middle	525	100	--	--	208	40	124	24	167	32	--	--
Upper middle	574	100	--	--	217	38	130	23	200	35	--	--
Highest	201	100	--	--	86	43	48	24	60	30	--	--
Not stated	715	100	40	6	277	39	163	23	186	26	48	7

General Social Survey, 1991

TABLE 5-4
Body Mass Index by age group, sex and type of smoker, ages 20-64, Canada, 1991

Age group, sex and type of smoker	Total population 20-64		Body Mass Index: Underweight		Recommended weight		Possibly overweight		Overweight		Not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)											
Population 20-64 years												
Both sexes												
Total	16,247	100	1,491	9	7,658	47	2,931	18	3,749	23	419	3
Regular smoker	4,752	100	486	10	2,361	50	821	17	1,013	21	71	2
Occasional smoker	840	100	105	12	418	50	130	15	156	19	--	--
Never daily smoker	6,837	100	657	10	3,366	49	1,239	18	1,425	21	150	2
Former smoker	3,684	100	236	6	1,496	41	728	20	1,141	31	83	2
Not stated	135	100	--	--	--	--	--	--	--	--	84	63
Male												
Total	8,086	100	228	3	3,541	44	1,909	24	2,254	28	153	2
Regular smoker	2,388	100	96	4	1,156	48	496	21	616	26	--	--
Occasional smoker	489	100	--	--	238	49	98	20	106	22	--	--
Never daily smoker	3,071	100	68	2	1,441	47	779	25	748	24	--	--
Former smoker	2,068	100	--	--	701	34	528	26	782	38	--	--
Not stated	69	100	--	--	--	--	--	--	--	--	55	79
Female												
Total	8,162	100	1,262	15	4,116	50	1,022	13	1,495	18	266	3
Regular smoker	2,364	100	390	16	1,205	51	324	14	397	17	47	2
Occasional smoker	351	100	77	22	181	52	32	9	50	14	--	--
Never daily smoker	3,766	100	589	16	1,925	51	460	12	677	18	116	3
Former smoker	1,616	100	200	12	796	49	200	12	359	22	61	4
Not stated	65	100	--	--	--	--	--	--	--	--	30	46
20-44 years												
Both sexes												
Total	10,972	100	1,222	11	5,591	51	1,798	16	2,086	19	275	3
Regular smoker	3,367	100	382	11	1,762	52	522	16	651	19	49	1
Occasional smoker	638	100	95	15	327	51	92	14	96	15	--	--
Never daily smoker	4,783	100	534	11	2,526	53	786	16	834	17	103	2
Former smoker	2,121	100	205	10	965	46	394	19	505	24	52	2
Not stated	64	100	--	--	--	--	--	--	--	--	43	68
Male												
Total	5,475	100	196	4	2,672	49	1,212	22	1,315	24	81	1
Regular smoker	1,746	100	79	5	908	52	308	18	432	25	--	--
Occasional smoker	364	100	--	--	193	53	69	19	64	17	--	--
Never daily smoker	2,301	100	65	3	1,165	51	555	24	498	22	--	--
Former smoker	1,040	100	--	--	405	39	277	27	321	31	--	--
Not stated	--	--	--	--	--	--	--	--	--	--	--	--
Female												
Total	5,497	100	1,026	19	2,920	53	586	11	772	14	194	4
Regular smoker	1,621	100	303	19	854	53	214	13	219	14	30	2
Occasional smoker	274	100	72	26	135	49	--	--	33	12	--	--
Never daily smoker	2,482	100	469	19	1,361	55	231	9	336	14	85	3
Former smoker	1,080	100	176	16	560	52	117	11	184	17	44	4
Not stated	40	100	--	--	--	--	--	--	--	--	--	--
45-64 years												
Both sexes												
Total	5,275	100	269	5	2,066	39	1,133	21	1,663	32	144	3
Regular smoker	1,385	100	104	8	599	43	298	22	362	26	--	--
Occasional smoker	202	100	--	--	91	45	--	--	60	30	--	--
Never daily smoker	2,054	100	123	6	840	41	454	22	591	29	47	2
Former smoker	1,563	100	31	2	531	34	334	21	636	41	--	--
Not stated	71	100	--	--	--	--	--	--	--	--	41	58
Male												
Total	2,611	100	32	1	870	33	697	27	939	36	73	3
Regular smoker	642	100	--	--	248	39	188	29	183	29	--	--
Occasional smoker	125	100	--	--	45	36	--	--	43	34	--	--
Never daily smoker	770	100	--	--	276	36	225	29	250	32	--	--
Former smoker	1,028	100	--	--	295	29	251	24	461	45	--	--
Not stated	46	100	--	--	--	--	--	--	--	--	--	--
Female												
Total	2,664	100	237	9	1,196	45	436	16	723	27	72	3
Regular smoker	743	100	86	12	351	47	110	15	178	24	--	--
Occasional smoker	77	100	--	--	46	60	--	--	--	--	--	--
Never daily smoker	1,284	100	120	9	563	44	229	18	341	27	31	2
Former smoker	535	100	--	--	236	44	83	16	175	33	--	--
Not stated	--	--	--	--	--	--	--	--	--	--	--	--

General Social Survey, 1991

TABLE 5-5
Perception of weight by sex and Body Mass Index, ages 20-64, Canada, 1991

Sex and Body Mass Index	How do you consider yourself?									
	Total population 20-64		Overweight		Underweight		Just about right		Not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)									
Both sexes										
Population 20-64	16,247	100	6,957	43	847	5	8,352	51	92	1
Underweight	1,491	100	39	3	371	25	1,077	72	--	--
Recommended weight	7,658	100	1,924	25	413	5	5,315	69	--	--
Possibly overweight	2,931	100	1,666	57	--	--	1,232	42	--	--
Overweight	3,749	100	3,150	84	--	--	584	16	--	--
Not stated	419	100	178	42	--	--	144	34	80	19
Male										
Population 20-64	8,086	100	3,039	38	507	6	4,481	55	58	1
Underweight	228	100	--	--	110	48	113	49	--	--
Recommended weight	3,541	100	427	12	349	10	2,764	78	--	--
Possibly overweight	1,909	100	817	43	--	--	1,061	56	--	--
Overweight	2,254	100	1,762	78	--	--	480	21	--	--
Not stated	153	100	--	--	--	--	64	42	53	34
Female										
Population 20-64	8,162	100	3,918	48	339	4	3,870	47	34	--
Underweight	1,262	100	35	3	261	21	965	76	--	--
Recommended weight	4,116	100	1,497	36	65	2	2,550	62	--	--
Possibly overweight	1,022	100	849	83	--	--	171	17	--	--
Overweight	1,495	100	1,388	93	--	--	104	7	--	--
Not stated	266	100	149	56	--	--	80	30	27	10

General Social Survey, 1991

TABLE 5-6
Prevalence of selected health problems, by age group and Body Mass Index, ages 20-64, Canada, 1991

Age group and Body Mass Index	Total population 20-64		Health problems(1) Hypertension		Heart trouble		Arthritis & rheumatism		High blood cholesterol	
	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)									
Population 20-64 years										
Total - BMI	16,247	100	2,220	14	718	4	2,728	17	1,355	8
Underweight	1,491	100	95	6	35	2	158	11	50	3
Recommended weight	7,658	100	698	9	284	4	1,082	14	475	6
Possibly overweight	2,931	100	468	16	141	5	498	17	313	11
Overweight	3,749	100	913	24	230	6	910	24	479	13
Not stated	419	100	46	11	--	--	81	19	--	--
20-24 years										
Total - BMI	1,967	100	89	5	57	3	88	4	63	3
Underweight	299	100	--	--	--	--	--	--	--	--
Recommended weight	1,118	100	47	4	--	--	51	5	--	--
Possibly overweight	296	100	--	--	--	--	--	--	--	--
Overweight	197	100	--	--	--	--	--	--	--	--
Not stated	58	100	--	--	--	--	--	--	--	--
25-44 years										
Total - BMI	9,005	100	860	10	250	3	955	11	457	5
Underweight	923	100	48	5	--	--	81	9	--	--
Recommended weight	4,473	100	282	6	110	2	410	9	172	4
Possibly overweight	1,502	100	180	12	44	3	158	11	110	7
Overweight	1,890	100	324	17	55	3	275	15	133	7
Not stated	217	100	--	--	--	--	--	--	--	--
45-64 years										
Total - BMI	5,275	100	1,271	24	411	8	1,685	32	834	16
Underweight	269	100	32	12	--	--	73	27	--	--
Recommended weight	2,066	100	369	18	146	7	621	30	274	13
Possibly overweight	1,133	100	280	25	83	7	324	29	187	16
Overweight	1,663	100	569	34	162	10	616	37	336	20
Not stated	144	100	--	--	--	--	51	35	--	--

General Social Survey, 1991

(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of affirmative responses shown.

CHAPTER 6

WORK AND HEALTH

6.1 HIGHLIGHTS

- Slightly more than half of the Canadian paid employed population aged 15 and over is provided with insurance for disability (56%), extra medical/ surgical care (53%), and dental care (53%) through work.

- About one-third of Canadian paid workers are entitled to counselling services for personal problems (31%) and paid maternity or paternity leave (30%) as employment benefits.

- Access to employment benefits of all kinds tends to increase with occupational status, but men are usually more likely than women working outside the home to have access to employment health benefits. Sex differences in disability, medical, and dental benefits hold true for all occupational categories but are most pronounced in skilled and semi-skilled occupations.

- Two-thirds of employed Canadian adults — 9,689,000 people in all — believe that they were exposed to some sort of physical health hazard in the workplace in the 12 months preceding the 1991 GSS. The most common perceived risks are exposure to dust or fibres in the air and working in proximity to a computer screen or terminal.

- Some workplace hazards, such as stress from job demands, poor interpersonal relations, and exposure to computer screens, decrease in prevalence with each occupational category, from professional through to unskilled labourer. Other perceived health risks, particularly those related to the physical environment, tend to be most often reported by skilled workers.

- Thirty-two percent of all employed workers believe that these exposures have had a negative impact on their health.

- The average employed worker was off work for health reasons for 6.2 days in the 12 months before the survey. Those who perceived that they were exposed to the risk of accident or injury, however, were off for an average of 16.6 days.

- The vast majority of employed Canadians describe themselves as very satisfied (57%) or somewhat satisfied (28%) with their jobs. Those with access to employment health benefits and less exposure to health hazards at work are more likely to be satisfied with their jobs.

6.2 METHODS

Questions on employment and health issues related to work were covered in Section M of the 1991

GSS interview (see Appendix II). Of particular interest to this chapter are the questions on employment benefits (M25), psychosocial work demands (M30), and health risks related to the physical environment at work (M34–M39).

All such questions asked about the respondent's current or most recent employment, including self-employment. If more than one position was held in the year preceding the survey, the questions focused on the job of the longest duration. Thus, in a relatively few cases, there is the possibility of a misalignment of the occupational data and the 12 month recall data. Questions about benefits were asked of paid (non-self-employed) workers only. The benefits included those paid either in full or in part by the employer, and the questions stipulated that the benefits were in addition to those provided by government. The psychosocial stressors (excessive job demands or hours, poor interpersonal relations, risk of accident or injury) were identified as those causing "excess worry or stress." Questions about the physical work environment asked first about perceptions of exposure, and then whether the respondent perceived any negative impact on health.

Questions on days of activity lost for all health reasons appeared near the beginning of the interview (Section B), whereas those on job satisfaction were part of a brief series of questions dealing with satisfaction with varied aspects of one's life in Section N.

Occupational status, which appears in many of the tables in this chapter, is based on the Pineo-Carroll-Moore classification of occupations.[1] The classification uses the four-digit occupational code which describes the nature of work including management responsibilities (Questions M20-23). For present purposes, the 16 Pineo classifications have been collapsed to six.

All the questions on work conditions and satisfaction were new in 1991, and thus comparisons with earlier surveys are not possible. Non-response for most of these variables was 2%. Further details on survey methods, including the sample, may be found in Chapter 1.

6.3 RESULTS

6.3.1 Employment Health Benefits

Slightly more than half of the Canadian paid working population aged 15 and over is provided with insurance for disability (56%), extra medical/surgical care (53%), and dental care (53%) through work, over and above coverage provided by the federal and provincial governments. About one-third of Canadians are entitled to counselling services for personal problems (31%) and paid maternity or paternity leave (30%) as employment benefits (Text Table 6-A).

Employment health benefits and occupational status

Access to employment benefits of all kinds tends to increase with occupational status (Text Table 6-A). The proportion of professionals and high-level managers with the most common health-related coverage is roughly double the proportion of unskilled workers with comparable benefits. The least common employment benefits — personal counselling and maternity or paternity leave — decrease with each occupational category, from professionals through to unskilled workers. For the most part, the availability of medical, dental, and disability benefits follows the same pattern, decreasing with occupational status. The major departure from this trend is the relatively low prevalence of these employment benefits in the semi-professional/technical and middle managerial category. Also noteworthy is the slightly higher prevalence of medical benefits among unskilled workers compared to semi-skilled workers.

Employment health benefits and sex

Women are less likely than men to receive each of these employment health benefits, with the exception of maternity/paternity leave, which women are six percentage points more likely to receive (Figure 6-A). The difference between the sexes is greatest for those receiving disability benefits (15 percentage points higher for men) and smallest for personal counselling as an employment benefit (two percentage points higher for men).

TEXT TABLE 6-A
Access to employment health benefits, by occupational status, paid workers age 15+, Canada, 1991

Occupational status	Employment health benefits				
	Disability insurance	Medical/ surgical care	Dental care	Counselling services	Maternity/ paternity leave
	(Percent)				
All groups	56	53	53	31	30
Professional and high-level managerial	80	77	78	58	50
Semi-professional/technical and middle managerial	68	64	66	44	44
Supervisors, fore(wo)men	80	71	75	42	35
Skilled workers and employees	62	61	59	33	28
Semi-skilled workers and employees	42	40	39	20	21
Unskilled workers and employees	47	42	42	20	21

General Social Survey, 1991

These sex differences in disability, medical, and dental benefits hold true for all occupational categories but are most pronounced in skilled and semi-skilled occupations.

Counselling for personal problems is a relatively new benefit, one that is of interest as concern with addictions and with the "whole" employee grows. It is the benefit most equally accessible to employed men and women, but the sex difference in counselling as a benefit varies considerably with occupational status. For the semi-professional and supervisory job categories, women are seven and 10 percentage points respectively, *more* likely than men to have this benefit, but nine and seven percentage points, *less* likely than men in skilled and semi-skilled occupational categories, respectively (Table 6-1).

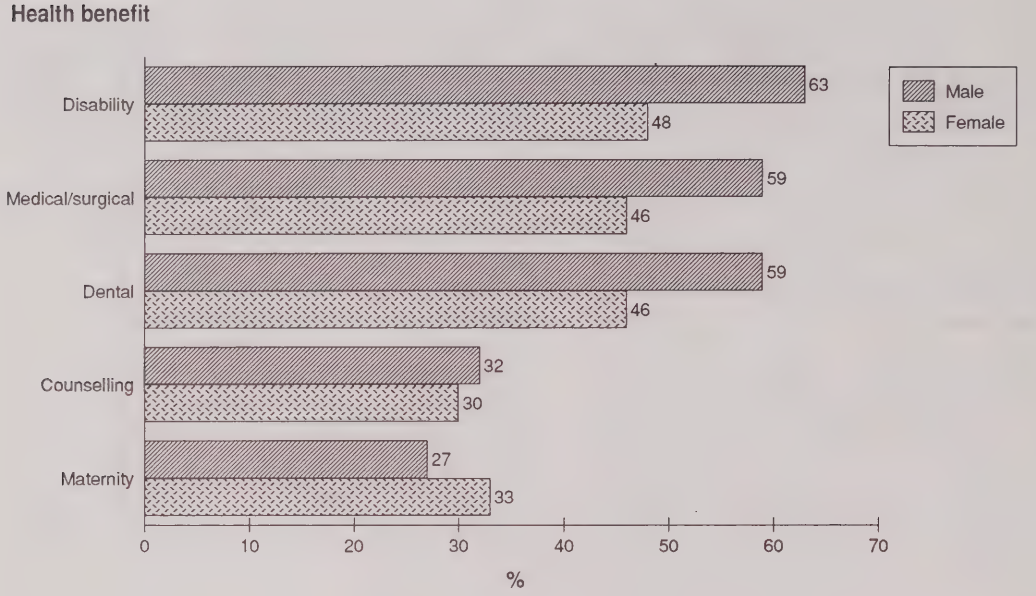
6.3.2 Perceived Exposure to Workplace Health Hazards

Two-thirds of Canadian adults working at a job or business — 9,689,000 people in all — believe that they were exposed to some sort of health hazard in the physical environment at work in the year preceding the 1991 GSS (Table 6-2). The most common perceived risks are exposure to dust or fibres in the air (34%) and working in proximity to a computer screen or terminal (31%), both of which were reported by approximately one-third of employed Canadians (Table 6-3). Roughly one-quarter of Canadians (26%) reported being exposed to loud noise in the workplace in the year preceding the survey, and an equal number reported excessive stress (26%) as a result of the demands placed on them by their jobs.

Workplace health hazards and sex

Perceived exposure to at least one workplace health hazard is reported by 10 percentage points more men than women (71% vs. 61%). This male–female difference exists for all occupational categories but is most pronounced among individuals employed as supervisors, where the sex difference in exposure to workplace hazards (82% of men; 63% of women, or 19 percentage points) is almost double the national difference of 10 percentage points.

FIGURE 6-A
Employment health benefits by sex, paid workers age 15+, Canada, 1991



General Social Survey, 1991

Variations in health risk exposure are more striking when individual health risks are examined. Rates of perceived exposure are higher for men than for women for every hazard except computer screens (36% women, 27% men) and the stress caused by poor interpersonal relations (12% women, 11% men) (Figure 6-B). For example, exposure to loud noise in the workplace is reported almost three times more often by men than by women (36% vs. 13%). Similarly, exposure to dust or fibres in workplace air is reported much more often by men than by women (41% vs. 24%), as is exposure to dangerous chemicals (25% vs. 10%).

Workplace health hazards and occupational status

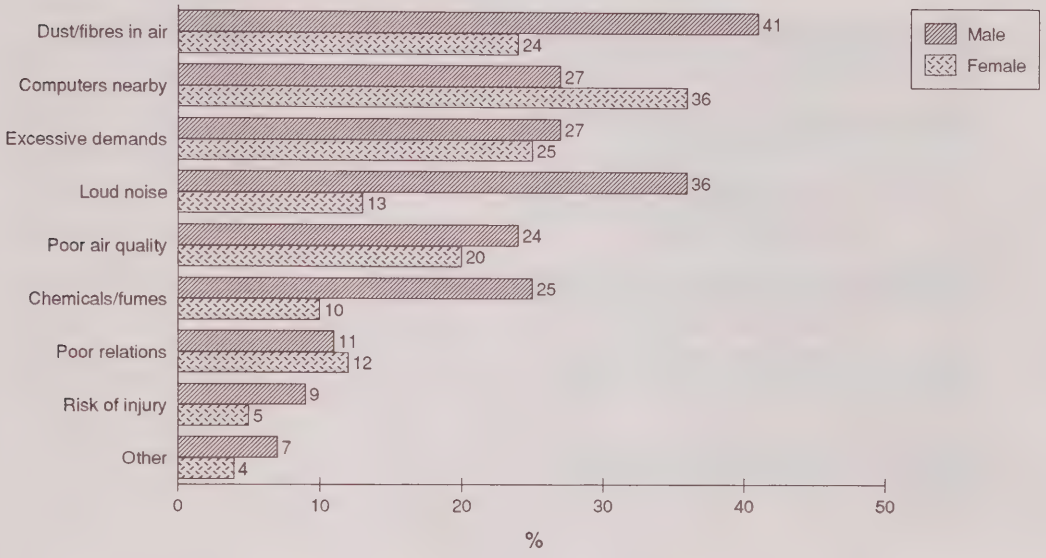
When examined in light of perceived exposure to health hazards in the workplace, occupations fall into two broad categories. Those employed in professional, semi-professional, supervisory, or skilled positions tend to report higher levels of exposure to workplace hazards than those employed as semi-skilled or unskilled workers. This division exists for both sexes but is more pronounced among men than among women (Table 6-2).

The perception of a number of specific health risks tends to vary with occupational status. Some, such as stress from job demands, poor interpersonal relations, and exposure to computer screens, decrease in prevalence with each occupational category, from professional through to unskilled labourer. Other health risks (Table 6-3), particularly those related to the physical environment, tend to be most often reported by skilled workers.

6.3.3 Perceived Health Impact of Exposure to Workplace Hazards

Of the 66% of Canadian adults reporting exposure to one or more physical workplace health hazards, over 4.5 million (32% of those working at a job or business) believed that this exposure had negatively

FIGURE 6-B
Perceived exposure to health hazards at work by sex, population aged 15+ working at a job or business, Canada, 1991



General Social Survey, 1991

affected their health (Table 6-2). This figure does not vary by more than a few percentage points with occupational status, with two exceptions: skilled workers are somewhat more likely than the total working population to believe that workplace health hazards have affected their health (40% vs. 32% of those working at a job or business), whereas semi-skilled labourers are less likely (27% vs. 32%).

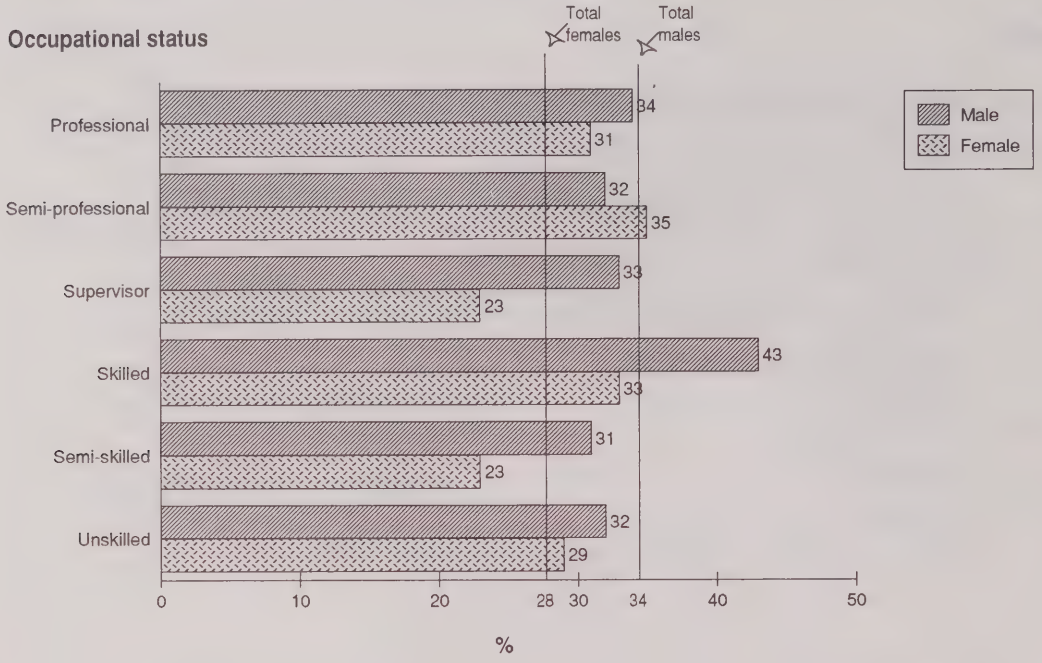
Overall, fewer women (28%) than men (34%) reported health effects as a result of workplace exposure (Figure 6-C). Among those employed in semi-professional positions, however, marginally more women than men (35% vs. 32%) associated health risks at work with damage to their own health. Sex differences are largest among those employed as supervisors or foremen/women (33% of men; 23% of women), skilled labourers (43% of men; 33% of women), and semi-skilled labourers (31% of men; 23% of women).

Days of activity lost and perceived workplace health hazards

As reported in Chapter 3, Canadian paid workers were off the job for health reasons 0.24 days in the two weeks leading up to the survey; this translates into 6.24 days in the previous 12 months (excluding holidays). Although there were no specific reasons ascertained by the survey for time off work, the findings are consistent with the belief that workplace health risks affect the health of some workers.

Workers worried about the risk of accident or injury were by far the most likely to lose time from work — 16.6 annual days, on average. This

FIGURE 6-C
Perceived impact of exposure to workplace hazards on health, by occupational status and sex, population aged 15+ working at a job or business, Canada, 1991



General Social Survey, 1991

is well ahead of the next hazard — poor air quality (8.6 days). The 8.1 days associated with excessive job demands and the 7.3 days associated with poor interpersonal relations are also important, especially when one considers the number of workers involved (Text Table 6-B).

There are pronounced sex differences in the relationship between time lost from work and perceived workplace hazards. For those who cite exposure to the risk of accident or injury, and computer screens, men lose more time than women. The reverse is true — women lose more time than men — for those who are stressed by excessive job demands or poor interpersonal relations or who are exposed to chemicals/fumes and other physical hazards.

6.3.4 Job Satisfaction

The vast majority of working Canadians describe themselves as either very satisfied (57%) or somewhat satisfied (28%) with their jobs. Only 11% of employed Canadian adults are dissatisfied with their current jobs (Text Table 6-C). Whereas the survey did not probe specific reasons for job satisfaction, there does seem to be a negative relationship with exposure to health hazards in the workplace and a positive association with access to health-related employment benefits.

Job satisfaction and exposure to workplace health hazards

Exposure to perceived workplace health hazards appears to be associated with job dissatisfaction. Whereas most men who report one or more health hazards at work describe themselves as very satisfied with their jobs (55%), this figure is seven percentage points less than for those who do not report such exposure (62%). Women are also somewhat less satisfied with their job if they perceive themselves as exposed to health hazards (Text Table 6-C). However, the relationships are

TEXT TABLE 6-B
Annual days lost from work, by perceived exposure to workplace hazards and sex, population aged 15+ whose main activity was working in the last two weeks, Canada, 1991

Perceived workplace hazard	Time lost from work		
	Both sexes	Male	Female
	(Days per year)		
Total	6.2	5.7	7.3
Risk of accident or injury	16.6	18.5	10.7
Poor air quality	8.6	8.6	8.3
Computer screens	6.8	7.5	6.0
Excessive job demands	8.1	7.0	9.6
Dust/fibres in air	6.8	6.8	7.0
Loud noise	6.8	6.8	7.0
Dangerous chemicals/fumes	6.5	6.2	8.3
Poor interpersonal relations	7.3	5.7	9.4
Other physical hazards	6.8	5.5	9.9

General Social Survey, 1991

TEXT TABLE 6-C
Job satisfaction by sex and perceived exposure to workplace health hazards, population aged 15+ working at a job or business, Canada, 1991

Sex and perceived exposure to workplace health hazards	Job satisfaction				
	Total job satisfaction	Dissatisfied	Somewhat satisfied	Very satisfied	No opinion/ N.S.
	(Percent)				
Both sexes	100	11	28	57	4
Exposed	100	12	30	57	1
Not exposed	100	9	26	63	2
Male	100	11	29	56	4
Exposed	100	13	30	55	1
Not exposed	100	8	26	62	3
Female	100	10	27	59	4
Exposed	100	10	29	59	1
Not exposed	100	9	25	64	2

General Social Survey, 1991

weak for both sexes, and the majority of Canadians working at a job or business express high levels of satisfaction regardless of their perception of health hazards.

Job satisfaction and employment health benefits

A higher proportion of male and female Canadians who receive a health-related job benefit report being very satisfied with their jobs compared to those not receiving the benefit, and this is true regardless of the benefit being provided (Table 6-4). As might be anticipated, the majority of non-self-employed Canadians who are dissatisfied with their jobs do not receive employment health benefits. It should be noted, however, that these patterns may reflect occupational status and economic perquisites that accompany employment health benefits, rather than a strict concern with health coverage.

6.4 DISCUSSION

6.4.1 Methodological Considerations

Although the questions in Section M of the GSS questionnaire were new in 1991, there is little reason not to accept the data at face value. Responses of "don't know" for the questions on employment benefits were acceptably low for most benefits (e.g., 5% for disability insurance), although there was a higher level of uncertainty about counselling (12%) and maternity leave (17%). It is noteworthy that the proportion of "don't know" answers for some of the less common employment benefits increases as occupational status decreases (data not shown). However, this is as much a substantive finding as it is a methodological issue.

In order to improve accuracy of recall, the survey used a two-week reporting period for questions about sick leave (see Appendix II). In this chapter, these values have been multiplied by 26 to achieve an annual figure. This calculation makes no provision for vacation leave or other paid holidays; thus, the values in Text Table 6-B slightly overstate the actual loss of productivity due to health problems. However, days of annual holiday leave vary considerably by occupational status and were not determined by the survey, making correction of these lost time values a complex matter. As shown in Text Table 6-B, annual days lost from work provide a reasonable basis for comparing associated hazards. Moreover, because the survey data were collected throughout the year (see Ch. 1), there is no worry about seasonality when inflating the two-week reports to annual values.

Text Table 6-B links time lost from work with exposure to various job hazards, and it is very important to note that this is a statistical association only. Survey respondents were not asked the specific reason for their absence, so it is not accurate to relate these days lost to particular *causes*. Although such an association is plausible, so are other explanations. For example, workers who take a lot of sick days may also be predisposed to identify health hazards at work. Because of the large number of work days involved, this issue demands further examination.

In a similar fashion, the relationships between job satisfaction and exposure to workplace health hazards (Text Table 6-C) and between job satisfaction and employment health benefits are only associational: reasons for (dis)satisfaction were not determined, and this whole question needs further study. What is perhaps most striking about these findings is the high level of satisfaction regardless of the benefits or hazards experienced. However, high satisfaction is not a new finding in surveys of Canadian workers.[2]

6.4.2 Substantive Issues

Just under 10 million Canadians are exposed to health hazards on the job, by their own report, and over 4.5 million believe their health has been adversely affected by these exposures. These are large and impressive numbers, underscoring the importance of these new findings.

This chapter also reveals some recurring patterns regarding work and health as related to occupational status and the sex of the worker. Women, whose relatively low earnings compared to those of men have been amply documented,[3] also have less access to many health-related employment benefits. This is true of all occupational categories, especially skilled and semi-skilled occupations. Further examination of this issue, taking account of the union membership of the worker as well as more detailed descriptions of occupation, might be revealing. Such an examination should also take account of the fact that men are more likely than women to report

exposure to hazards on the job, as well as negative health impacts due to these exposures.

A related issue is the sex difference in time lost from work: for some associated hazards, time off is greater for men; for others, it is greater for women. The reasons for this are unclear, but they are of potential importance for practical purposes.

Access to employment health benefits is directly related to occupational status, yet exposure to health hazards is inversely related to occupational status, at least for some hazards. Among the more exposed groups of employees, skilled workers are noteworthy for their tendency to cite both exposure and harm, compared to semi-skilled and unskilled workers. As with the sex issue, this calls for further analysis to take account of occupational status, industry, and union membership. It would be important to know, for example, whether information on workplace hazards is equally available to all occupational groups.

The familiar finding of an apparently high level of job satisfaction should not be cause for complacency on the part of employers or managers. When the average worker stressed by poor interpersonal relations on the job, for example, takes 7.3 days of sick leave annually, the lost productivity on an aggregate basis is considerable. Although such workers may be glad to have had a job during the depth of the recession when the survey was conducted, this and other results of the 1991 GSS suggest many challenges for those concerned with the future of the Canadian economy.

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2. Krahn, H. *Quality of Work in the Service Sector*. General Social Survey Analysis Series. Ottawa: Minister of Industry, Science and Technology, 1993. Statistics Canada Catalogue No. 11-612E. No. 6.

3. Statistics Canada - *Income After Tax, Distributions by Size in Canada, 1990*. Ottawa: Minister of Industry, Science and Technology, 1992. Catalogue No. 13-210.

TABLE 6-1
Employment health benefits by sex and occupational status, paid workers aged 15+, Canada, 1991

Sex and occupational status	Paid workers age 15+		Employment health benefits(1)									
			Disability insurance		Medical benefits		Dental benefits		Counselling services		Maternity leave	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)											
Both sexes												
All groups	12,350	100	6,954	56	6,547	53	6,535	53	3,843	31	3,657	30
Prof/ high-level man.	1,501	100	1,197	80	1,160	77	1,166	78	872	58	745	50
Semi-prof/ tech & middle man.	1,973	100	1,351	68	1,264	64	1,300	66	860	44	866	44
Supervisors/ fore(wo)men	451	100	363	80	320	71	338	75	191	42	160	35
Skilled workers	2,270	100	1,413	62	1,387	61	1,344	59	740	33	630	28
Semi-skilled workers	3,069	100	1,287	42	1,220	40	1,182	39	608	20	646	21
Unskilled workers	2,715	100	1,274	47	1,128	42	1,129	42	548	20	572	21
Not stated	370	100	68	18	67	18	78	21	--	--	39	11
Male												
All groups	6,709	100	4,237	63	3,938	59	3,938	59	2,172	32	1,800	27
Prof/ high-level man.	767	100	659	86	625	81	631	82	471	61	376	49
Semi-prof/ tech & middle man.	990	100	707	71	672	68	674	68	397	40	376	38
Supervisors/ fore(wo)men	306	100	258	84	217	71	234	77	119	39	104	34
Skilled workers	1,409	100	954	68	961	68	951	68	504	36	330	23
Semi-skilled workers	1,363	100	761	56	681	50	656	48	322	24	294	22
Unskilled workers	1,672	100	849	51	739	44	742	44	345	21	302	18
Not stated	202	100	--	--	--	--	--	--	--	--	--	--
Female												
All groups	5,641	100	2,718	48	2,608	46	2,597	46	1,671	30	1,857	33
Prof/ high-level man.	733	100	538	73	535	73	535	73	401	55	369	50
Semi-prof/ tech & middle man.	983	100	644	66	593	60	626	64	463	47	490	50
Supervisors/ fore(wo)men	145	100	106	73	103	71	103	71	72	49	57	39
Skilled workers	861	100	459	53	426	49	393	46	236	27	299	35
Semi-skilled workers	1,707	100	526	31	539	32	526	31	286	17	352	21
Unskilled workers	1,042	100	425	41	389	37	386	37	203	20	271	26
Not stated	168	100	--	--	--	--	--	--	--	--	--	--

General Social Survey, 1991

(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of affirmative responses shown.

TABLE 6-2
Perceived exposure to workplace hazards by sex and occupational status, population aged 15+ working at a job or business, Canada, 1991

Sex and occupational status	Workforce pop. 15+		Any perceived exposure to workplace health hazards: Yes						No		Not stated	
			Any negative health impact: Total		Yes		No		Not Stated			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)													
Both sexes														
All groups	14,597	100	9,689	66	4,602	32	5,046	35	41	--	4,570	31	339	2
Prof/ high-level man.	1,733	100	1,260	73	572	33	687	40	--	--	473	27	--	--
Semi-prof/ tech & middle man.	2,407	100	1,704	71	802	33	893	37	--	--	692	29	--	--
Supervisors/ fore(wo)men	724	100	550	76	216	30	330	46	--	--	172	24	--	--
Skilled workers	2,868	100	2,189	76	1,134	40	1,050	37	--	--	664	23	--	--
Semi-skilled workers	3,383	100	2,006	59	908	27	1,090	32	--	--	1,361	40	--	--
Unskilled workers	3,094	100	1,924	62	953	31	959	31	--	--	1,139	37	31	1
Not stated	389	100	55	14	--	--	--	--	--	--	70	18	264	68
Male														
All groups	8,194	100	5,788	71	2,780	34	2,982	36	26	--	2,223	27	183	2
Prof/ high-level man.	938	100	709	76	322	34	386	41	--	--	229	24	--	--
Semi-prof/ tech & middle man.	1,280	100	948	74	408	32	532	42	--	--	329	26	--	--
Supervisors/ fore(wo)men	506	100	413	82	165	33	244	48	--	--	93	18	--	--
Skilled workers	1,848	100	1,464	79	801	43	661	36	--	--	369	20	--	--
Semi-skilled workers	1,555	100	1,032	66	483	31	542	35	--	--	517	33	--	--
Unskilled workers	1,853	100	1,187	64	590	32	593	32	--	--	649	35	--	--
Not stated	214	100	--	--	--	--	--	--	--	--	--	--	143	67
Female														
All groups	6,403	100	3,900	61	1,822	28	2,063	32	--	--	2,347	37	156	2
Prof/ high-level man.	795	100	551	69	249	31	301	38	--	--	244	31	--	--
Semi-prof/ tech & middle man.	1,126	100	756	67	394	35	361	32	--	--	363	32	--	--
Supervisors/ fore(wo)men	218	100	137	63	51	23	87	40	--	--	79	36	--	--
Skilled workers	1,020	100	725	71	333	33	389	38	--	--	294	29	--	--
Semi-skilled workers	1,828	100	974	53	425	23	547	30	--	--	844	46	--	--
Unskilled workers	1,240	100	736	59	364	29	365	29	--	--	490	40	--	--
Not stated	175	100	--	--	--	--	--	--	--	--	--	--	121	69

General Social Survey, 1991

TABLE 6-3
Type of perceived workplace hazard exposure by sex and occupational status, population aged 15+ working at a job or business, Canada, 1991

Sex and occupational status	Workforce population 15+		Too many demands / hours		Risk of accident / injury		Poor inter-personal relations		Dust in air		Dangerous chemicals		Loud noise		Computer screens		Air quality		Other dangers	
	Type of hazard(1)																			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)																			
Both sexes																				
All groups	14,597	100	3,822	26	1,015	7	1,668	11	4,891	34	2,686	18	3,748	26	4,470	31	3,220	22	816	6
Professionals/ high-level management	1,733	100	739	43	70	4	289	17	388	22	201	12	249	14	954	55	445	26	102	6
Semi-prof./ technicians & middle management	2,407	100	912	38	147	6	361	15	634	26	356	15	409	17	1,137	47	623	26	144	6
Supervisors/ fore(wo)men	724	100	227	31	45	6	81	11	346	48	140	19	215	30	228	31	138	19	44	6
Skilled workers	2,868	100	666	23	244	9	287	10	1,303	45	804	28	1,114	39	907	32	785	27	219	8
Semi-skilled workers	3,383	100	661	20	232	7	345	10	1,019	30	565	17	876	26	723	21	609	18	165	5
Unskilled workers	3,094	100	589	19	267	9	296	10	1,172	38	613	20	865	28	486	16	602	19	139	4
Not stated	389	100	--	--	--	--	--	--	--	--	--	--	--	--	36	9	--	--	--	--
Male																				
All groups	8,194	100	2,194	27	710	9	904	11	3,366	41	2,031	25	2,919	36	2,175	27	1,928	24	576	7
Professionals/ high-level management	938	100	443	47	40	4	168	18	207	22	129	14	151	16	564	60	230	24	70	8
Semi-prof./ technicians & middle management	1,280	100	501	39	60	5	182	14	358	28	180	14	285	22	663	52	326	25	82	6
Supervisors/ fore(wo)men	506	100	158	31	43	8	56	11	282	56	121	24	194	38	153	30	101	20	40	8
Skilled workers	1,848	100	415	22	203	11	162	9	1,058	57	723	39	993	54	335	18	544	29	195	11
Semi-skilled workers	1,555	100	314	20	168	11	180	12	629	40	416	27	627	40	264	17	333	21	104	7
Unskilled workers	1,853	100	343	19	192	10	156	8	816	44	456	25	657	35	171	9	379	20	85	5
Not stated	214	100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Female																				
All groups	6,403	100	1,628	25	304	5	764	12	1,525	24	655	10	829	13	2,295	36	1,292	20	240	4
Professionals/ high-level management	795	100	296	37	30	4	121	15	181	23	72	9	98	12	390	49	215	27	32	4
Semi-prof./ technicians & middle management	1,126	100	411	36	87	8	178	16	276	24	176	16	124	11	474	42	297	26	63	6
Supervisors/ fore(wo)men	218	100	68	31	--	--	26	12	65	30	--	--	--	--	75	34	37	17	--	--
Skilled workers	1,020	100	250	25	42	4	125	12	245	24	81	8	121	12	572	56	241	24	--	--
Semi-skilled workers	1,828	100	347	19	65	4	165	9	391	21	150	8	248	14	459	25	276	15	61	3
Unskilled workers	1,240	100	246	20	76	6	141	11	356	29	156	13	208	17	315	25	223	18	54	4
Not stated	175	100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

General Social Survey, 1991

(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of affirmative responses shown.

TABLE 6-4
Job satisfaction by sex and employment benefits, paid workers aged 15+, Canada, 1991

Sex and employment benefits(1)	Job satisfaction									
	Total job satisfaction		Dissatisfied		Somewhat satisfied		Very satisfied		No opinion/ not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)									
Both sexes										
Paid workers age 15+	12,350	100	1,426	12	3,561	29	6,841	55	521	4
Disability Insurance	6,954	100	633	9	2,045	29	4,193	60	83	1
Medical benefits	6,547	100	622	10	1,931	29	3,901	60	92	1
Dental benefits	6,535	100	657	10	1,950	30	3,833	59	95	1
Counselling services	3,843	100	316	8	1,100	29	2,395	62	33	1
Maternity leave	3,657	100	282	8	998	27	2,337	64	40	1
Male										
Paid workers age 15+	6,709	100	835	12	1,981	30	3,594	54	299	4
Disability Insurance	4,237	100	416	10	1,281	30	2,471	58	68	2
Medical benefits	3,938	100	399	10	1,198	30	2,273	58	68	2
Dental benefits	3,938	100	424	11	1,207	31	2,235	57	72	2
Counselling services	2,172	100	187	9	641	29	1,325	61	--	--
Maternity leave	1,800	100	144	8	501	28	1,137	63	--	--
Female										
Paid workers age 15+	5,641	100	591	10	1,580	28	3,247	58	222	4
Disability Insurance	2,718	100	217	8	764	28	1,722	63	--	--
Medical benefits	2,608	100	223	9	733	28	1,628	62	--	--
Dental benefits	2,597	100	233	9	743	29	1,598	62	--	--
Counselling services	1,671	100	129	8	460	28	1,069	64	--	--
Maternity leave	1,857	100	138	7	497	27	1,199	65	--	--

General Social Survey, 1991

(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of affirmative responses shown.

CHAPTER 7

HEALTH CARE UTILIZATION

7.1 HIGHLIGHTS

- More than nine out of 10 Canadians (94%) aged 15 and over reported contact with a health care professional in the 12 months prior to the 1991 GSS. General practitioner consultation is the most frequently cited contact, reported by 82% of Canadians. Psychologist consultation is the least frequently cited contact, reported by 4% of Canadians.

- People with a low income are more likely to visit a general practitioner, medical specialist, nurse or psychologist than higher-income Canadians. For example, 86% of those with the lowest incomes reported visiting a general practitioner, compared to 83% of those with the highest incomes.

- Canadians with a higher income are much more likely to consult a dentist at least once a year. Approximately 76% of Canadians with the highest incomes reported a visit with a dentist in the 12 months prior to the survey, compared to 33% of Canadians with the lowest incomes.

- Overall, 11% of Canadians living in private households spent at least one night in a health care institution in the 12 months prior to the survey. Canadians 65 years of age and over with the lowest incomes were more likely (19%) to spend time in an institution than Canadians 65 years of age and over in the two highest income groups (14%).

- Canadians from the Atlantic provinces are more likely than their Prairie counterparts to experience a delay in obtaining health care. Twelve percent of people from Atlantic Canada experienced a delay in obtaining health care, compared to 3% of people from the Prairie provinces.

- Overall, 51% of Canadians aged 65 and over were advised to get an influenza inoculation in the fall or winter of 1990–91. The proportion of people aged 65 and over who were advised to get a flu shot is highest for people in Ontario (56%), Newfoundland (54%) and Quebec (54%) and lowest for people in Saskatchewan (33%) and New Brunswick (36%).

- Nurse utilization patterns by region have changed since 1985. While overall the proportion of Canadians who reported visiting a nurse in the 12 months prior to the survey has remained stable since 1985 at 11%, the proportion of people in Quebec who reported visiting a nurse increased from 7% in 1985 to 17% in 1991, and the proportion of people in British Columbia who reported visiting a nurse increased from 8% in 1985 to 12% in 1991. Conversely, the proportion of people in Ontario who reported a consultation with a nurse decreased from 13% in 1985 to 8% in 1991.

7.2 METHODS

The utilization of health care services during the 12 months prior to the 1991 GSS was determined through a series of questions presented in Section C of the GSS questionnaire (see Appendix II). Respondents were asked about the number of times they had seen or talked to each of nine categories of health care professionals — general practitioner; medical specialist; dentist; nurse; optometrist or optician; chiropractor; psychologist, social worker, or counsellor; physio-therapist; and any other health care professional — during the 12 months preceding the survey (Question C1). Respondents were then asked if they had spent any nights as a patient in a hospital, nursing home, or convalescent home during the 12 months before the survey (Question C2). Finally, respondents were asked if they had experienced any delays in obtaining health care in the 12 months prior to the survey (Question C3); those who responded positively were asked for which type of medical service the delay had occurred (Question C4).

Information on influenza inoculations was collected in Section D. First, respondents were asked if a doctor or nurse had recommended that they get a flu shot during the fall or winter of 1990–91 (Question D1). All respondents were then asked if they had received a flu shot during the fall or winter of 1990–91 (Question D3). Those respondents who had not received a flu shot were asked why they had not received a shot (Question D4).

The proportion of people surveyed who did not respond to questions examined in this chapter is low. Question C1 had a non-response rate of less than 1%. The non-response rates for questions on flu shots recommended and received, and on delays in obtaining care, were also well below one percent.

Several caveats should be noted when interpreting the data. First, the use of a 12-month recall period for the frequency of health care contact may result in an underestimate of this frequency. While the National Health Interview Survey in the United States has shown that annual estimates of physician visits based on a two-week recall period are higher than those based on a 12-month period, estimates based on a longer period are more useful in identifying groups of individuals who tend to use health services more than others. Moreover, health care is seasonal and this seasonality cannot be readily adjusted for in surveys using very much shorter recall periods and a 12-month reference period is unavoidable for relatively rare events such as visits to a psychologist or psychotherapist. The assumption that underlies the use of a 12-month period is that all respondents are equally prone to reporting errors, regardless of age, sex, income, or other characteristics.

Questions relating to delays in obtaining health care (C3, C4) were based on self-perceived delays only. No attempt was made to separate health threatening delays from non-threatening delays.

Finally, since income adequacy and age are highly correlated, data on income adequacy and health care utilization are presented for those aged 65 years and older to control for the confounding age variable.

7.3 RESULTS

7.3.1 Contact with Health Care Professionals

More than nine out of 10 Canadians (94%) aged 15 and over contacted a health care professional during the 12 months prior to the survey (Text Table 7-A). General practitioner consultation is the most frequently reported type of contact (82%), followed by consultation with a dentist (55%), optometrist (29%), and medical specialist (28%). Contact with a psychologist is the least frequently reported (4%).

Contact by age and sex

In all cases, an equal or higher proportion of women than men reported visiting a health care professional (Text Table 7-A). The gap between the sexes is largest for general practitioners, with which 87% of women reported contact compared to 77% of men. No difference exists between the sexes for nurse contact, with 11% of both sexes reporting contact.

Overall, the proportion of Canadians who visit a health care professional tends to increase with age (Table 7-1). By type of health care professional, the proportion of people who have contact increases with age for general practitioners, medical specialists, and "other" health care professionals. Conversely, the proportion of Canadians who visit a health care professional

TEXT TABLE 7-A
Contact with a health care professional in the 12 months preceding the survey, by type of professional contacted and sex, age 15+, Canada, 1991

Type of professional contacted	Contact with professional		
	Both sexes	Male	Female
	(Percent)		
At least one health care professional	**94**	**91**	**96**
General practitioner	82	77	87
Dentist	55	53	57
Optometrist	29	26	33
Medical specialist	28	24	32
Nurse	11	11	11
Chiropractor	9	9	10
Physiotherapist	6	5	6
Other	6	5	6
Psychologist	4	3	4

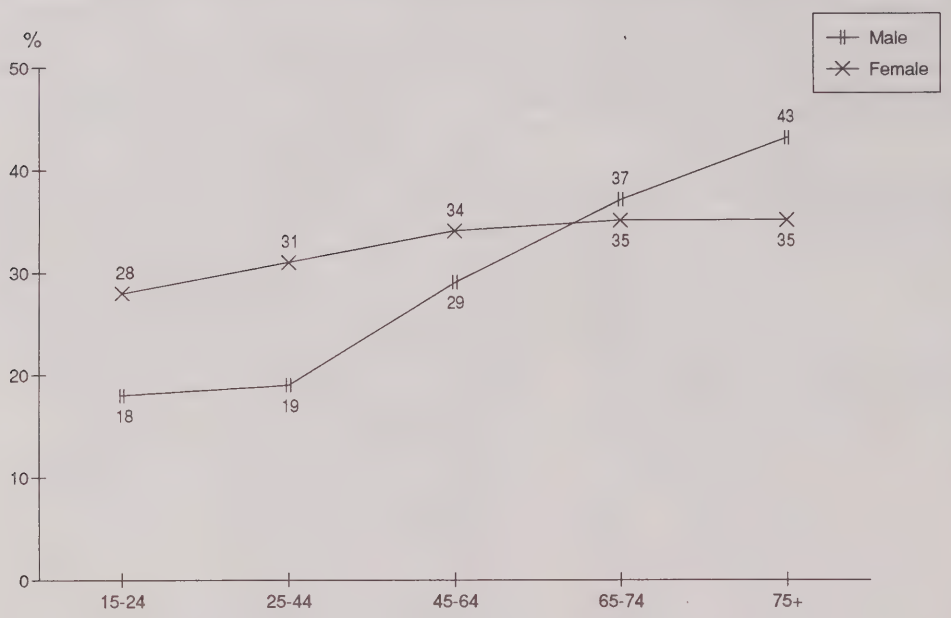
General Social Survey, 1991

decreases with age for dentists and psychologists. Ten percent of all Canadians between the ages of 25 and 74 reported seeing a nurse, while a higher proportion of the 15 to 24 year age group (14%) and the 75 and older age group (17%) consulted with a nurse. Chiropractor and physiotherapist consultation gradually increases until mid-life (age 45-64) and then decreases for those aged 65 and older.

Several interesting patterns emerge when contact is examined by both sex and age (Table 7-1). While a higher proportion of women reported contact with a health professional, the difference between the sexes is most pronounced in the 25 to 44 year old age category. For example, 86% of women aged 25 to 44 reported general practitioner contact, compared to 72% of men aged 25 to 44, a difference of 14 percentage points. Similarly, 31% of women aged 25 to 44 reported visiting a medical specialist, compared to 19% of men, a difference of 12 percentage points.

The age trend for medical specialist contact varies between the sexes. The proportion of men who report visiting a medical specialist increases at a steeper rate than for women (Figure 7-A). For men, there is a 25 percentage point difference between those aged 15 to 24 (18%) and those aged 75 and over (43%) who reported a contact, compared to only a seven percentage point difference for women (28% vs. 35%). As a result of the steep increase observed for men, a higher proportion of women than men aged 64 and under reported visiting a medical specialist, whereas a higher proportion of men than women aged 65 and older reported visiting a specialist.

FIGURE 7-A
Medical specialist contacts in the 12 months preceding the survey by age group and sex, age 15+, Canada, 1991



General Social Survey, 1991

Contact by province

Contact with health care professionals varies across the provinces (Table 7-2). Compared to the other provinces, a lower proportion of people from Quebec (78%) visited a general practitioner in the 12 months prior to the survey, whereas a higher proportion of people from Prince Edward Island (86%) and British Columbia (85%) reported such contact. A higher proportion of people from Quebec (32%) and Nova Scotia (33%) reported contact with a specialist, whereas a lower proportion of people from the Prairie provinces (23%), Newfoundland (21%), and Prince Edward Island (25%) reported contact with a medical specialist. In Quebec, 17% of residents indicated a visit with a nurse, compared to only 8% of residents of Ontario and Saskatchewan. Provincial variation in contact with a dentist is marked. Sixty-three percent of Ontario residents reported contact with a dentist, followed by 59% in British Columbia; only 37% of people in Newfoundland reported a dental visit.

Utilization of other types of health care professionals (chiropractor, psychologist, and physio-therapist) is generally higher in western Canada. For example, 18% of people from Saskatchewan, 16% of people from Manitoba, and 13% of people from British Columbia reported seeing a chiropractor, compared to only 7% in Quebec and 3% in New Brunswick. Ten percent of residents in British Columbia reported visiting a physio-therapist, compared to 6% for all of Canada.

A very high proportion of residents in Nova Scotia (33%), New Brunswick (30%), Newfoundland (26%), and Prince Edward Island (26%) reported contact with an "other" health care professional, compared to only 6% for all of Canada.

Contact by income adequacy

A higher proportion of those in the lowest group reported consulting a general practitioner, medical specialist, nurse, and psychologist (Table 7-3). Eighty-six percent of Canadians in this group reported consulting a physician compared to 82% for the entire population, 33% reported consulting a medical specialist compared to 28% for the entire population, 17% reported contacting a nurse compared to 11% for the entire population, and 11% reported contacting a psychologist compared to 4% for the entire population.

Conversely, the proportion of Canadians who reported visiting a dentist increases as income adequacy increases. Only 33% in the lowest group reported consulting a dentist, compared to 76% of those in the highest group.

7.3.2 Frequency of Medical Doctor Contact

Frequency of contact by age and sex

Four out of ten Canadians (42%) consulted a medical doctor (includes general practitioner and medical specialist) on one or two occasions in the year preceding the survey, while 11% reported 10 or more medical doctor contacts in that year (Table 7-4). As age increases, the proportion of Canadians who contact a medical doctor more frequently also increases. For example, 7% of those aged 15 to 24 reported consulting a medical doctor 10 or more times, compared to 27% for those aged 75 and over. Conversely, 45% of those aged 15 to 24 consulted a medical doctor one or two times, compared to only 21% for those aged 75 and over. The same pattern holds true when examined by sex.

Frequency of contact by income adequacy

Among older Canadians, income adequacy and frequency of contact are inversely related. Those in a higher group are more likely to contact a medical doctor on just one or two occasions, while those in a lower group are more likely to contact a medical doctor 10 or more times (Text Table 7-B). Twenty-eight percent of those in the upper middle group reported one or two medical doctor contacts, compared to 19% of those in the lowest category. Conversely, only 15% of those in the upper middle group reported 10 or more medical doctor contacts, compared to 30% of those in the lowest group.

7.3.3 Number of Institutionalized Nights

Institutionalized nights by age and sex

Overall, 11% of Canadians living in private households spent at least one night as a patient in a hospital, nursing home or convalescent home during the 12 months preceding the survey (Table 7-5). This percentage was lowest for those aged 45 to 64 (9%) and highest for those aged 75 and over (22%). A lower proportion of men aged 44 and under spent at least one night in an institution compared to their female counterparts. Conversely, a higher proportion of men aged 45 and over spent at least one night in an institution compared to their female counterparts.

Institutionalized nights by income adequacy

A higher proportion of senior Canadians in a lower group reported spending at least one night in an institution compared to those in a higher group (Text Table 7-C). As well, those in a lower group are more likely to spend more time in an institution than those in a higher group. For example, 15% of those aged 65 years and older in the lowest group spent three or more nights in an institution, compared to 10% of those aged 65 years and over in the two highest categories combined.

7.3.4 Delays in Care

Delays by age and sex

Overall, 7% of Canadians experienced a delay in obtaining some form of health care in the 12 months prior to the survey (Table 7-6). A higher proportion of women (8%) than men (5%) experience delays in health care. The proportion of Canadians who experience a delay in obtaining health care is relatively consistent across all age groups (Table 7-6). By type of medical service sought, 1% of Canadians aged 15 and over experienced a delay in obtaining hospital emergency room treatment, a medical appointment with a general practitioner and hospital admission for surgery or some other medical treatment; 2% experienced a delay in obtaining a medical appointment with a specialist.

TEXT TABLE 7-B
Medical doctor (includes both general practitioner and medical specialist) contacts in the 12 months preceding the survey, by income adequacy, age 65+, Canada, 1991

Income adequacy	Number of contacts with a medical doctor					
	Total	None	1–2	3–9	10+	Not stated
	(Percent)					
Total	**100**	**8**	**25**	**43**	**22**	**2**
Lowest	100	7	19	43	30	--
Lower middle	100	6	20	48	26	--
Middle	100	7	26	45	21	--
Upper middle	100	10	28	47	15	--
Highest	100	--	31	49	--	--
Not stated	100	8	27	38	24	3

General Social Survey, 1991

TEXT TABLE 7-C
Number of institutionalized nights in the 12 months preceding the survey, by income adequacy, age 65+, Canada, 1991

Income adequacy	Number of nights					
	Total	None	1+	1-2	3+	Not stated
	(Percent)					
Total	**100**	**83**	**17**	**3**	**14**	**--**
Lowest	100	80	19	--	15	--
Lower Middle	100	79	21	--	18	--
Middle	100	83	17	3	14	--
Upper middle	100	86	14	--	10	--
Highest	100	86	--	--	--	--
Not stated	100	84	16	-	13	-

General Social Survey, 1991

Delays by province

Provincial variations exist in delays in obtaining health care (Text Table 7-D). A higher proportion of people from the east experienced delays in obtaining health care compared to their western counterparts. The proportion of people experiencing delays in obtaining health care is lowest in Ontario and the Prairie provinces. This general pattern is true for both sexes.

7.3.5 Influenza Shots

Influenza shots by age and sex

Overall, 14% of Canadians were advised to get an influenza inoculation, and 14% of Canadians actually received a flu shot in the fall or winter of 1990–91 (Table 7-7). As age increases, the proportion of Canadians who were advised to get,

TEXT TABLE 7-D
Delays in obtaining health care in the 12 months preceding the survey, by province and sex, age 15+, Canada, 1991

Province	Delays in obtaining health care		
	Both sexes	Male	Female
	(Percent)		
Canada	**7**	**5**	**8**
Atlantic	12	11	13
Newfoundland	11	10	13
Prince Edward Island	16	13	19
Nova Scotia	11	10	13
New Brunswick	12	12	12
Quebec	9	6	11
Ontario	5	4	6
Prairies	3	3	3
Manitoba	4	--	7
Saskatchewan	3	--	3
Alberta	4	3	4
British Columbia	8	8	9

General Social Survey, 1991

and who obtained, a flu shot increases dramatically. For example, 47% of those aged 75 and over received a flu shot, compared to 7% of those aged 44 and under. A slightly higher proportion of women (15%) than men (13%) received a flu shot. While this pattern generally holds true when examined by age, a higher proportion of men (51%) than women (45%) aged 75 and older received a flu shot.

Reasons for not obtaining an influenza shot

The most frequently cited reasons for not obtaining a flu shot (Table 7-8) include: "I hardly ever get the flu" (40%); "I never thought about it" (22%); "my doctor never mentioned it" (12%); "I haven't heard about it" (7%); and "fear of side effects" (6%).

Influenza shots by province

Generally, a higher proportion of Canadians aged 65 and over from the eastern provinces (except New Brunswick) were advised to get a flu shot compared to their western counterparts (Text Table 7-E). The proportion of Canadians aged 65 and over who were advised to get a flu shot is highest in Ontario (56%) and Newfoundland (54%) and lowest in Saskatchewan (33%) and New Brunswick (36%). The proportion of older Canadians

TEXT TABLE 7-E
Flu shots recommended and received in fall or winter 1990–91, by province, age 65+, Canada, 1991

Province	Flu shot recommended	Flu shot received
	(Percent)	
Canada	**51**	**45**
Atlantic	48	40
Newfoundland	54	43
Prince Edward Island	51	49
Nova Scotia	53	44
New Brunswick	36	31
Quebec	54	37
Ontario	56	53
Prairies	42	40
Manitoba	44	40
Saskatchewan	33	31
Alberta	47	46
British Columbia	42	44

General Social Survey, 1991

who actually received a flu shot is highest in Ontario (53%), Prince Edward Island (49%), and Alberta (46%) and lowest in New Brunswick (31%) and Saskatchewan (31%).

It is interesting to note the provincial variations between the proportion of seniors who were advised to get, and who actually received, a flu shot. In most provinces, the proportion of individuals who received a flu shot was within a few percentage points of the proportion of people who were advised to get a flu shot. In Newfoundland, Nova Scotia, and Quebec, however, substantially fewer residents received shots than were advised to get shots.

7.3.6 Type of Contact by Health Problem

Almost two-thirds of Canadians reported some health problems in the year before the survey (see Chapter 2). Not surprisingly, those with a health

TEXT TABLE 7-F
Contact with selected health care professionals in the 12 months preceding the survey, by health problem, age 15+, Canada, 1991

Health problem	Type of health care professional contacted		
	General practitioner	Medical specialist	Nurse
	(Percent)		
Population 15+	**82**	**28**	**11**
Heart trouble	95	52	17
Diabetes	94	51	22
High blood cholesterol	91	39	16
Any emotional disorder	91	48	23
Hypertension	90	35	14
Arthritis & rheumatism	90	39	14
Asthma	89	36	16
Emphysema	89	44	20
Digestive problems other than stomach ulcers	89	43	14
Recurring migraine headaches	89	36	11
Stomach ulcer	89	40	13
Hay fever	85	34	12
Skin or other allergies	87	37	13

General Social Survey, 1991

problem are more likely to visit a general practitioner, medical specialist, or nurse compared to the general Canadian population aged 15 and over (Text Table 7-F). Of all the types of health problems listed, people with heart trouble and people with diabetes are most likely to report contact with a general practitioner or medical specialist. Ninety-five percent of Canadians with heart trouble reported visiting a general practitioner, followed by 94% of diabetics; this compares with 82% of the total population. Similarly, 52% of those with heart trouble reported seeing a medical specialist, followed by 51% of those with diabetes; this compares with 28% of the total Canadian population. Nurse contact was reported by a higher proportion of people with any emotional disorder (23%), diabetes (22%), and emphysema (20%) compared to those with other health care problems listed in the survey.

7.4 DISCUSSION

7.4.1 Changes Since 1978 and 1985

Questions on contact with one or more medical doctors, dentists, and nurses were asked in the 1978–79 Canada Health Survey.[1] The 1978 Canada Health Survey collected information on medical doctor contact but did not distinguish between general practitioner and medical specialist. The 1985 GSS[2] collected information on general practitioner, medical specialist, dentist and nurse contact. As well, frequency of medical doctor contact (includes both general practitioner and medical specialist) was probed in both the 1978-79 CHS and the 1985 GSS. This section reports on the results of changes over time in utilization of various health care professionals using the 1978–79, 1985, and 1991 data from the above-mentioned surveys.

For the purpose of making comparisons across surveys, the term "medical doctor" refers to both general practitioners and medical specialists.

Contact with health care professionals

The proportion of adult Canadians who reported consulting a medical doctor increased from 76% in 1978–79 to 84% in 1991 (Figure 7-B). Similarly, the proportion of Canadians who reported contacting a dentist increased from 47% in 1978–79 to 55% in 1991. As shown in Figure 7-B, the proportion of Canadians who reported contacting a nurse has remained relatively stable since 1978 at about 10-11%.

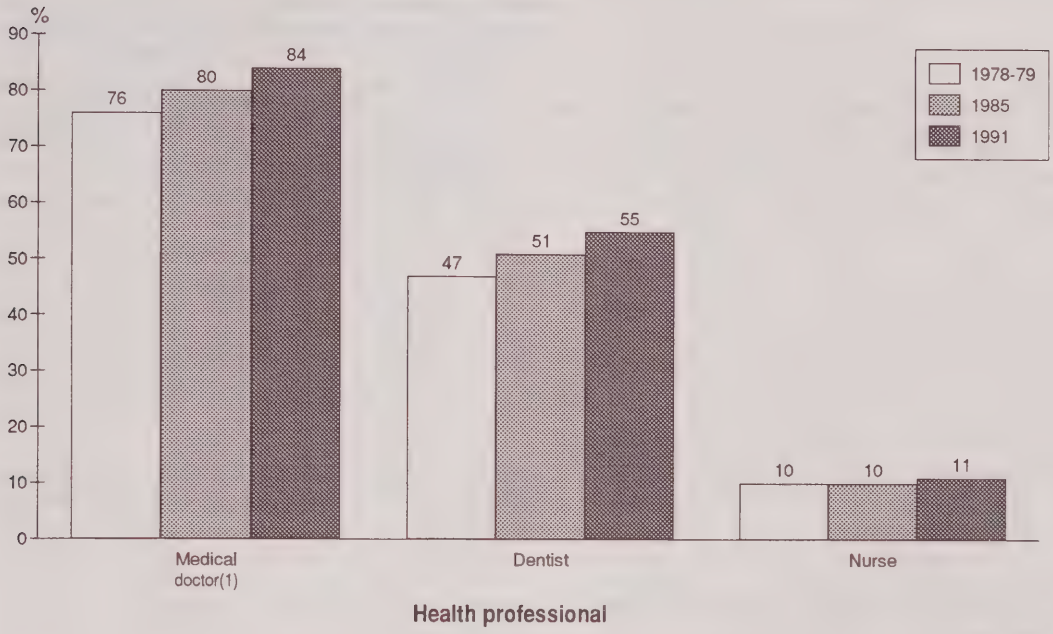
When utilization patterns over time are examined by sex and age group, some interesting patterns emerge. For example, the proportion of men who consulted a general practitioner has increased at a slightly higher rate (71% in 1985 to 77% in 1991) than the proportion of women (82% in 1985 to 87% in 1991). Still, a higher proportion of women than men consulted a general practitioner in both years. One of the key reasons women aged 25 to 44 make a higher proportion of contacts with general practitioners relates to the health care requirements associated with pregnancy and childbirth (Text Table 7-G).

While the proportion of Canadians who reported consulting a medical specialist has remained at about 28% since 1985, changes in utilization patterns are observed by sex and age categories. For example, Canadians aged 25 to 44 showed a decrease in utilization from 28% in 1985 to 25% in 1991. This same pattern holds true by sex (data not shown). Of particular interest is the change in medical specialist utilization patterns for the elderly population (Figure 7-C). For both sexes aged 65 to 74 and for women aged 75 and over, the proportion who reported consulting a medical specialist decreased modestly (Figure 7-C). Conversely, for men aged 75 and over, utilization increased rather markedly, from 35% in 1985 to 43% in 1991.

The decrease in the proportion of specific age groups that reported contacting a specialist raises some interesting questions. While more research into this area is required, perhaps some questions to consider are: (a) do shortages of certain types of specialists exist? (b) is health status such that there is less need for certain types of medical specialists? (c) are general/family practitioners dealing with certain patient health problems themselves instead of referring them to specialists? The notable increase in utilization of specialists for men aged 75 and over may be in part attributable to the fact that the life expectancy of men is increasing and, correspondingly, there is an increased severity of morbidity among elderly men.

Generally, the changing utilization pattern from 1985 to 1991 observed for medical specialists and general practitioners also holds true for the regions. However, nurse utilization patterns over time are

Figure 7-B
Health professional contacts in 12 months preceding the survey, age 15+, Canada, 1978-79, 1985 and 1991



Canada Health Survey 1978-79
General Social Survey, 1985 and 1991

(1) Includes general practitioner and medical specialist.

quite different by region. In 1985, 7% of people in Quebec reported contacting a nurse. This proportion increased dramatically to 17% in 1991. Similarly, the proportion of people in British Columbia who reported consulting a nurse increased from 8% in 1985 to 12% in 1991. In Ontario, however, the proportion of people who reported consulting a nurse decreased from 13% in 1985 to 8% in 1991.

Without knowing where the nurse visit took place or the reason for the contact, it is difficult to speculate on the regional variations in nurse utilization. The relatively low utilization of physicians and high utilization of nurses in Quebec may be a reflection of that provinces's health care delivery system, which emphasizes offering a wide range of health and social services in a single location ("CLSCs") by a variety of health care professionals.[3,4]

7.4.2 Other Observations

Provincial variations

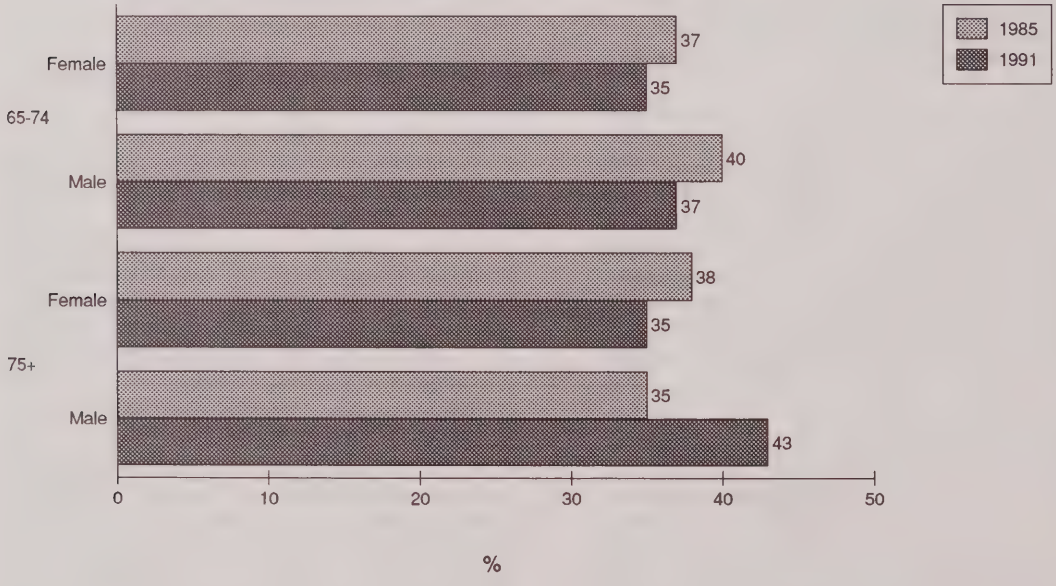
Provincial variations in the use of chiropractors, physiotherapists, and psychologists may be a reflection of variations in both provincial coverage and supply. For example, the five provinces with the highest proportion of residents reporting contact with a chiropractor (Saskatchewan, Manitoba, British Columbia, Alberta, Ontario) all include at least some form of payment for chiropractic services under provincial legislation.[5] As well, in 1990 these provinces had a higher supply of chiropractors per capita than did the Atlantic provinces which reported lower utilization rates.[6] However, it is interesting to note that although Quebec had the highest supply of licensed chiropractors per capita in 1990,[6] the utilization of chiropractors in this

TEXT TABLE 7-G
General practitioner consultations in the 12 months preceding the survey, by sex, age 15+, Canada, 1985 and 1991

Age group	Consulted a general practitioner					
	Both sexes		Male		Female	
	1985	1991	1985	1991	1985	1991
	(Percent)					
Population 15+	**76**	**82**	**71**	**77**	**82**	**87**
15–24	75	82	67	77	83	87
25–44	75	79	68	72	81	86
45–64	76	82	72	79	80	86
65–74	82	89	81	87	84	92
75+	86	91	82	89	89	92

General Social Survey, 1985 and 1991

FIGURE 7-C
Medical specialist contacts in the 12 months preceding the survey by age group and sex, age 65+, Canada, 1985 and 1991



General Social Survey, 1985 and 1991

province was quite low. This may be attributable to the fact that provincial insurance in Quebec does not extend to chiropractic services.

Similarly, for physiotherapists and psychologists, a relationship exists between the proportion of people who reported contact and supply. For example, the smallest proportion of people who reported physiotherapist and psychologist contact resided in Newfoundland. In 1988, this province also had the lowest proportion of active physiotherapists per capita[6] and the lowest proportion of active registered or licensed psychologists per capita.[6] Conversely, the highest proportion of individuals who reported a physiotherapist contact were from British Columbia, and this province also had the highest proportion of licensed physiotherapists per capita.[6] In addition, British Columbia had the second highest number of psychologists and contacts with psychologists.

The high proportion of residents in the Atlantic provinces who reported contacting an "other" health care professional may be an artifact of the data collection process. When conducting a survey with a relatively small number of interviewers, there is a risk of interviewers introducing their personal technique in collecting data. In this case "other" health care professional consisted mainly of technologists. It may have been that the interviewers from this region probed more deeply into consultation with this category than did interviewers from the other regions.

Individuals with health problems

Of interest is the low proportion of individuals with health problems who reported consulting a medical specialist. While a higher proportion of people with health problems contacted a medical specialist, it is surprising, for example, that the percentage is not higher for those with heart trouble, diabetes, and hypertension. One would expect that these specific groups would contact a general practitioner at least on an annual basis. The fact that the percentage of individuals with specific health problems who contacted a general practitioner is not 100% may be reflective of several points. First, individuals may have reported a health problem that has not been diagnosed or treated by a general practitioner. Second, some individuals may have health problems that are under control and do not require the attention of a general practitioner. And third, assuming that 100% of individuals with a health problem contact a general practitioner on an annual basis, the 12-month recall period used in the survey may have resulted in an under-representation of the true rate of consultation.[2]

Income adequacy and health care utilization

Results from this survey indicate that, even when controlling for age, income adequacy is inversely related to utilization of general practitioners and medical specialists and directly related to utilization of dentists.

People with a low income adequacy are more likely to contact a general practitioner and medical specialist and are more likely to contact their general practitioner more frequently than those in a high group. This observation may be a reflection of the paradox of equality of access and inequalities in health status described by Manga.[7] While universal medical insurance has eliminated the financial barrier to accessing medically necessary services,[8,9] it has not eliminated the inequalities in health status. The observation that a higher proportion of people in the lowest group consult medical doctors and consult them more frequently may be a result of the complex interaction of living and working conditions and lifestyle factors that contribute to the fundamental causes of illness and disability observed in the poor, requiring them to utilize more health services.[7,10]

The inverse relationship that exists between dental contact and income adequacy suggests that dental contact is related to financial ability and perhaps insurance coverage. While medical care insurance is universal in Canada, insurance coverage for dentists is not. This observation is supported by results of the 1990 Health Promotion Survey, which show a direct relationship between the proportion of individuals who contacted a dentist and insurance coverage.[11]

Recommendation of influenza shots

It is interesting to note the low proportion of Canadians aged 65 and over who were advised to get an influenza shot. Both Health and Welfare Canada[12] and the Canadian Medical Association[13] recommend that all those aged 65 and over obtain a flu shot, yet 49% of Canadians aged 65 and over stated that the recommendation of a flu shot had not been made. Of the 54% of Canadians aged

65 and over who did not receive a flu shot, 39% stated that they hardly ever got the flu, 20% said they had fear of side effects, 12% stated that they had never thought about it, and 9% stated that their doctor never mentioned it or that the flu shot doesn't work.

Delays in obtaining care

A concern regarding Canada's health care delivery system is the existence of waiting lists for medical procedures and treatments. A recent study conducted by the Fraser Institute on waiting times for certain procedures among medical specialists across Canada concluded that "substantial waiting for health services is a reality in Canada".[14] Data from the 1991 GSS indicate that 7% of adult Canadians perceived experiencing a delay in obtaining health care. By type of health care service sought, the most frequently cited delay in obtaining care was for a delay in obtaining a medical appointment with a specialist, reported by 2% of adult Canadians. Of those reporting a delay with a medical specialist, about 6 out of 10 reported the duration of the delay was 8 weeks or less while the remainder said it was greater than 8 weeks (data not shown). Analysis on delays in obtaining care would be more meaningful if done in the context of both need for service and detailed duration of delay. It is interesting to note the relative differences among the provinces in the proportion of people who experienced a delay. Further analysis should be conducted to examine this issue in more detail.

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TABLE 7-1
Type of health care professional contacted in 12 months preceding survey by sex and age group, age 15+, Canada, 1991

Sex and age group	Total population 15+		Health care professional contacted(1)																					
			Any contact		MD		GP		Specialist		Dentist		Nurse		Optometrist		Chiro-practor		Psycho-logist		Physio-therapist		Other	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)																							
Both sexes																								
Population 15+	20,981	100	19,640	94	17,639	84	17,196	82	5,873	28	11,532	55	2,345	11	6,140	29	1,990	9	819	4	1,157	6	1,195	6
15-24 years	3,793	100	3,603	95	3,164	83	3,107	82	871	23	2,466	65	537	14	1,111	29	286	8	239	6	145	4	172	5
25-44 years	9,005	100	8,369	93	7,345	82	7,130	79	2,279	25	5,486	61	912	10	2,245	25	906	10	404	4	492	5	443	5
45-64 years	5,275	100	4,907	93	4,486	85	4,345	82	1,647	31	2,625	50	527	10	1,687	32	583	11	144	3	360	7	331	6
65+ years	2,908	100	2,762	95	2,644	91	2,615	90	1,076	37	955	33	369	13	1,098	38	216	7	32	1	161	6	249	9
65-74 years	1,824	100	1,728	95	1,645	90	1,632	89	658	36	711	39	189	10	660	36	149	8	--	--	98	5	161	9
75+ years	1,084	100	1,034	95	999	92	983	91	418	39	244	23	180	17	438	40	67	6	--	--	62	6	88	8
Male																								
Population 15+	10,266	100	9,349	91	8,058	78	7,865	77	2,463	24	5,446	53	1,126	11	2,645	26	969	9	345	3	516	5	513	5
15-24 years	1,935	100	1,791	93	1,508	78	1,482	77	356	18	1,172	61	268	14	478	25	132	7	102	5	83	4	76	4
25-44 years	4,476	100	4,014	90	3,307	74	3,230	72	862	19	2,514	56	427	10	961	21	474	11	163	4	235	5	185	4
45-64 years	2,611	100	2,380	91	2,132	82	2,062	79	753	29	1,335	51	284	11	776	30	279	11	67	3	142	5	141	5
65+ years	1,245	100	1,163	93	1,110	89	1,090	88	491	39	425	34	147	12	430	35	84	7	--	--	57	5	110	9
65-74 years	796	100	736	92	696	87	690	87	298	37	311	39	78	10	255	32	65	8	--	--	35	4	74	9
75+ years	448	100	427	95	414	92	400	89	193	43	114	26	70	16	175	39	--	--	--	--	--	--	36	8
Female																								
Population 15+	10,715	100	10,292	96	9,581	89	9,331	87	3,411	32	6,085	57	1,218	11	3,496	33	1,021	10	474	4	641	6	683	6
15-24 years	1,857	100	1,812	98	1,656	89	1,625	87	515	28	1,294	70	268	14	633	34	154	8	138	7	62	3	96	5
25-44 years	4,530	100	4,354	96	4,038	89	3,900	86	1,416	31	2,971	66	485	11	1,284	28	432	10	241	5	258	6	258	6
45-64 years	2,664	100	2,527	95	2,354	88	2,283	86	895	34	1,290	48	243	9	912	34	303	11	77	3	218	8	190	7
65+ years	1,664	100	1,598	96	1,534	92	1,524	92	585	35	530	32	222	13	667	40	132	8	--	--	103	6	139	8
65-74 years	1,028	100	992	97	948	92	941	92	360	35	400	39	111	11	405	39	84	8	--	--	63	6	87	8
75+ years	636	100	606	95	585	92	583	92	225	35	130	20	111	17	262	41	47	7	--	--	40	6	52	8

General Social Survey, 1991

(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of affirmative responses shown.

TABLE 7-2
Type of health care professional contacted in 12 months preceding survey, by sex and province, age 15+, Canada, 1991

Sex and province	Total population 15+		Health care professional contacted[1]																					
			Any contact		MD		GP		Specialist		Dentist		Nurse		Optometrist		Chiro-practor		Psycho-logist		Physio-therapist		Other	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)																							
Both sexes																								
Canada	20,981	100	19,640	94	17,639	84	17,196	82	5,873	28	11,532	55	2,345	11	6,140	29	1,990	9	819	4	1,157	6	1,195	6
Atlantic	1,806	100	1,662	92	1,508	83	1,476	82	507	28	850	47	198	11	454	25	39	2	83	5	79	4	549	30
Newfoundland	438	100	399	91	369	84	366	84	91	21	160	37	43	10	100	23	--	--	11	3	--	--	116	26
P.E.I.	98	100	93	94	86	87	84	86	24	25	54	55	12	13	22	23	--	--	--	--	5	5	26	26
Nova Scotia	704	100	660	94	596	85	580	82	229	33	360	51	77	11	190	27	--	--	44	6	32	5	236	33
New Brunswick	566	100	510	90	457	81	445	79	163	29	277	49	65	12	143	25	18	3	25	4	33	6	172	30
Quebec	5,384	100	4,973	92	4,402	82	4,180	78	1,739	32	2,549	47	925	17	1,690	31	403	7	165	3	164	3	93	2
Ontario	7,778	100	7,351	95	6,630	85	6,545	84	2,079	27	4,871	63	585	8	2,387	31	715	9	265	3	445	6	270	3
Prairies	3,482	100	3,236	93	2,904	83	2,834	81	813	23	1,760	51	332	10	1,064	31	494	14	179	5	207	6	41	1
Manitoba	839	100	778	93	703	84	685	82	182	22	444	53	80	10	243	29	133	16	39	5	42	5	--	--
Saskatchewan	742	100	685	92	602	81	591	80	168	23	316	43	61	8	231	31	137	18	35	5	42	6	--	--
Alberta	1,901	100	1,774	93	1,599	84	1,558	82	463	24	1,000	53	191	10	591	31	224	12	105	6	122	6	--	--
British Columbia	2,532	100	2,418	96	2,196	87	2,161	85	735	29	1,502	59	305	12	545	22	339	13	127	5	263	10	242	10
Male																								
Canada	10,266	100	9,349	91	8,058	78	7,865	77	2,463	24	5,446	53	1,126	11	2,645	26	969	9	345	3	516	5	513	5
Atlantic	885	100	795	90	680	77	666	75	218	25	409	46	103	12	197	22	17	2	45	5	37	4	233	26
Newfoundland	217	100	191	88	169	78	168	77	42	19	75	35	24	11	41	19	--	--	--	--	--	--	49	22
P.E.I.	48	100	45	93	39	82	38	80	12	26	26	54	7	15	11	24	--	--	--	--	--	--	11	23
Nova Scotia	343	100	318	93	273	80	267	78	100	29	175	51	41	12	86	25	--	--	--	--	20	6	95	28
New Brunswick	277	100	241	87	199	72	193	70	64	23	133	48	30	11	59	21	--	--	16	6	13	5	78	28
Quebec	2,617	100	2,333	89	1,978	76	1,877	72	719	27	1,213	46	451	17	742	28	188	7	63	2	57	2	31	1
Ontario	3,796	100	3,497	92	3,044	80	3,020	80	886	23	2,338	62	286	8	1,001	26	365	10	115	3	213	6	134	4
Prairies	1,725	100	1,569	91	1,342	78	1,311	76	317	18	824	48	153	9	465	27	242	14	73	4	97	6	--	--
Manitoba	411	100	374	91	325	79	318	78	68	17	208	51	44	11	104	25	63	15	22	5	21	5	--	--
Saskatchewan	367	100	329	90	268	73	264	72	65	18	147	40	23	6	100	27	62	17	--	--	21	6	--	--
Alberta	948	100	866	91	748	79	729	77	184	19	468	49	86	9	261	28	117	12	39	4	55	6	--	--
British Columbia	1,243	100	1,155	93	1,014	82	991	80	323	26	663	53	133	11	240	19	159	13	50	4	112	9	104	8
Female																								
Canada	10,715	100	10,292	96	9,581	89	9,331	87	3,411	32	6,085	57	1,218	11	3,496	33	1,021	10	474	4	641	6	683	6
Atlantic	921	100	866	94	827	90	811	88	289	31	441	48	95	10	257	28	22	2	38	4	42	5	317	34
Newfoundland	221	100	208	94	201	91	199	90	50	22	85	38	18	8	60	27	--	--	--	--	--	--	67	30
P.E.I.	50	100	48	96	46	92	46	91	12	24	28	56	5	10	11	22	--	--	--	--	--	--	15	30
Nova Scotia	361	100	342	95	323	90	314	87	129	36	185	51	36	10	104	29	--	--	23	6	--	--	140	39
New Brunswick	289	100	269	93	257	89	253	87	99	34	144	50	35	12	83	29	--	--	--	--	20	7	94	33
Quebec	2,767	100	2,640	95	2,424	88	2,303	83	1,020	37	1,336	48	474	17	948	34	216	8	102	4	107	4	63	2
Ontario	3,982	100	3,854	97	3,586	90	3,525	89	1,194	30	2,533	64	299	8	1,386	35	350	9	150	4	232	6	136	3
Prairies	1,756	100	1,668	95	1,562	89	1,523	87	496	28	936	53	179	10	600	34	252	14	106	6	110	6	29	2
Manitoba	428	100	404	94	378	88	367	86	114	27	235	55	36	8	139	32	71	17	17	4	21	5	--	--
Saskatchewan	375	100	356	95	334	89	327	87	103	27	168	45	38	10	131	35	75	20	23	6	21	6	--	--
Alberta	953	100	908	95	851	89	829	87	279	29	532	56	104	11	330	35	107	11	67	7	67	7	--	--
British Columbia	1,288	100	1,264	98	1,182	92	1,170	91	411	32	839	65	171	13	305	24	181	14	78	6	150	12	138	11

General Social Survey, 1991

(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of affirmative responses shown.

TABLE 7-3
Type of health care professional contacted in 12 months preceding survey by sex and income adequacy, age 15+, Canada, 1991

Sex and income adequacy	Total population 15+		Health care professional contacted(1)																					
			Any contact		MD		GP		Specialist		Dentist		Nurse		Optometrist		Chiro-practor		Psycho-logist		Physio-therapist		Other	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)																							
Both sexes																								
Total	20,981	100	19,640	94	17,639	84	17,196	82	5,873	28	11,532	55	2,345	11	6,140	29	1,990	9	819	4	1,157	6	1,195	6
Lowest	799	100	738	92	705	88	690	86	260	33	266	33	138	17	243	30	63	8	89	11	46	6	71	9
Lower middle	1,633	100	1,526	93	1,414	87	1,381	85	525	32	593	36	214	13	457	28	103	6	70	4	85	5	126	8
Middle	4,766	100	4,390	92	4,006	84	3,923	82	1,409	30	2,220	47	605	13	1,315	28	478	10	177	4	256	5	320	7
Upper middle	5,743	100	5,414	94	4,796	84	4,665	81	1,526	27	3,528	61	633	11	1,653	29	644	11	222	4	362	6	314	5
Highest	2,171	100	2,109	97	1,858	86	1,792	83	655	30	1,657	76	222	10	704	32	228	10	56	3	135	6	97	4
Not stated	5,869	100	5,462	93	4,861	83	4,746	81	1,499	26	3,268	56	532	9	1,768	30	475	8	205	3	272	5	268	5
Male																								
Total	10,266	100	9,349	91	8,058	78	7,865	77	2,463	24	5,446	53	1,126	11	2,645	26	969	9	345	3	516	5	513	5
Lowest	261	100	231	89	217	83	206	79	79	30	86	33	31	12	54	21	--	--	27	11	--	--	--	--
Lower middle	686	100	613	89	558	81	542	79	211	31	235	34	91	13	171	25	32	5	39	6	43	6	53	8
Middle	2,264	100	2,006	89	1,776	78	1,731	76	605	27	938	41	308	14	541	24	247	11	62	3	116	5	136	6
Upper middle	3,067	100	2,825	92	2,394	78	2,343	76	644	21	1,777	58	319	10	818	27	353	12	72	2	183	6	145	5
Highest	1,340	100	1,288	96	1,083	81	1,046	78	366	27	989	74	135	10	379	28	140	10	30	2	72	5	61	5
Not stated	2,648	100	2,385	90	2,030	77	1,998	75	558	21	1,422	54	243	9	681	26	187	7	115	4	91	3	98	4
Female																								
Total	10,715	100	10,292	96	9,581	89	9,331	87	3,411	32	6,085	57	1,218	11	3,496	33	1,021	10	474	4	641	6	683	6
Lowest	538	100	507	94	488	91	484	90	181	34	181	34	107	20	188	35	52	10	62	12	35	7	50	9
Lower middle	947	100	913	96	856	90	839	89	314	33	358	38	124	13	286	30	71	8	30	3	42	4	73	8
Middle	2,503	100	2,384	95	2,230	89	2,192	88	804	32	1,282	51	297	12	774	31	231	9	115	5	140	6	184	7
Upper middle	2,676	100	2,589	97	2,402	90	2,322	87	882	33	1,750	65	314	12	835	31	291	11	151	6	180	7	169	6
Highest	831	100	821	99	774	93	746	90	289	35	668	80	87	10	324	39	88	11	25	3	63	8	36	4
Not stated	3,221	100	3,077	96	2,832	88	2,748	85	941	29	1,846	57	289	9	1,088	34	288	9	90	3	181	6	170	5

General Social Survey, 1991

(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of affirmative responses shown.

TABLE 7-4
Number of contacts with medical doctor in 12 months preceding survey by sex and age group, age 15+, Canada, 1991

Sex and age group	Number of contacts with medical doctor													
	Total population 15+		None		Total with contact		1 - 2		3 - 9		10 +		Not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)													
Both sexes														
Population 15+	20,981	100	3,214	15	17,639	84	8,908	42	6,398	30	2,333	11	128	1
15-24 years	3,793	100	616	16	3,164	83	1,720	45	1,185	31	258	7	--	--
25-44 years	9,005	100	1,616	18	7,345	82	4,243	47	2,276	25	826	9	44	--
45-64 years	5,275	100	762	14	4,486	85	2,207	42	1,677	32	603	11	27	1
65+ years	2,908	100	220	8	2,644	91	738	25	1,260	43	646	22	44	2
65-74 years	1,824	100	154	8	1,645	90	507	28	785	43	353	19	--	--
75+ years	1,084	100	65	6	999	92	232	21	475	44	293	27	--	--
Male														
Population 15+	10,266	100	2,132	21	8,058	78	4,578	45	2,718	26	762	7	77	1
15-24 years	1,935	100	417	22	1,508	78	930	48	528	27	50	3	--	--
25-44 years	4,476	100	1,136	25	3,307	74	2,183	49	875	20	249	6	--	--
45-64 years	2,611	100	463	18	2,132	82	1,132	43	777	30	223	9	--	--
65+ years	1,245	100	115	9	1,110	89	333	27	538	43	239	19	--	--
65-74 years	796	100	85	11	696	87	230	29	333	42	134	17	--	--
75+ years	448	100	30	7	414	92	104	23	205	46	105	23	--	--
Female														
Population 15+	10,715	100	1,082	10	9,581	89	4,330	40	3,680	34	1,572	15	51	--
15-24 years	1,857	100	198	11	1,656	89	790	43	657	35	208	11	--	--
25-44 years	4,530	100	480	11	4,038	89	2,060	45	1,401	31	577	13	--	--
45-64 years	2,664	100	299	11	2,354	88	1,075	40	900	34	379	14	--	--
65+ years	1,664	100	105	6	1,534	92	405	24	722	43	407	24	25	2
65-74 years	1,028	100	69	7	948	92	277	27	452	44	220	21	--	--
75+ years	636	100	36	6	585	92	128	20	270	42	187	29	--	--

General Social Survey, 1991

TABLE 7-5
Number of institutionalized nights in 12 months preceding survey by sex and age group, age 15+, Canada, 1991

Sex and age group	Number of institutionalized nights													
	Total population 15+		No nights		Total with nights		1 - 2 nights		3+ nights		Number n.s.		Not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)													
Both sexes														
Population 15+	20,981	100	18,678	89	2,290	11	614	3	1,617	8	58	--	--	--
15-24 years	3,793	100	3,399	90	392	10	148	4	229	6	--	--	--	--
25-44 years	9,005	100	8,059	89	946	11	276	3	648	7	--	--	--	--
45-64 years	5,275	100	4,817	91	452	9	102	2	342	6	--	--	--	--
65+ years	2,908	100	2,403	83	499	17	89	3	399	14	--	--	--	--
65-74 years	1,824	100	1,555	85	264	14	51	3	208	11	--	--	--	--
75+ years	1,084	100	847	78	235	22	38	4	191	18	--	--	--	--
Male														
Population 15+	10,266	100	9,363	91	899	9	294	3	599	6	--	--	--	--
15-24 years	1,935	100	1,784	92	152	8	83	4	68	4	--	--	--	--
25-44 years	4,476	100	4,199	94	276	6	103	2	171	4	--	--	--	--
45-64 years	2,611	100	2,379	91	230	9	59	2	171	7	--	--	--	--
65+ years	1,245	100	1,001	80	241	19	49	4	189	15	--	--	--	--
65-74 years	796	100	658	83	136	17	30	4	105	13	--	--	--	--
75+ years	448	100	343	76	105	23	--	--	84	19	--	--	--	--
Female														
Population 15+	10,715	100	9,315	87	1,391	13	321	3	1,018	9	53	--	--	--
15-24 years	1,857	100	1,615	87	241	13	65	3	161	9	--	--	--	--
25-44 years	4,530	100	3,860	85	670	15	173	4	477	11	--	--	--	--
45-64 years	2,664	100	2,438	92	223	8	43	2	171	6	--	--	--	--
65+ years	1,664	100	1,401	84	258	15	39	2	210	13	--	--	--	--
65-74 years	1,028	100	897	87	128	12	--	--	103	10	--	--	--	--
75+ years	636	100	505	79	130	20	--	--	107	17	--	--	--	--

General Social Survey, 1991

TABLE 7-6
Delays in obtaining health care in 12 months preceding survey by type of service sought, sex and age group, age 15+, Canada, 1991

Sex and age group	Total population 15+		No delays		Total with delays		Delays in obtaining care: Hospital emergency		Medical appt. w/GP		Medical appt. w/spec.		Hospital admission		Other		Not stated		Delays n.s	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)																			
Both sexes																				
Population 15+	20,981	100	19,558	93	1,392	7	247	1	273	1	409	2	235	1	215	1	--	--	31	--
15-24 years	3,793	100	3,602	95	188	5	57	2	31	1	41	1	--	--	33	1	--	--	--	--
25-44 years	9,005	100	8,359	93	642	7	107	1	159	2	188	2	91	1	87	1	--	--	--	--
45-64 years	5,275	100	4,882	93	380	7	56	1	49	1	128	2	74	1	71	1	--	--	--	--
65+ years	2,908	100	2,715	93	183	6	26	1	34	1	51	2	47	2	--	--	--	--	--	--
65-74 years	1,824	100	1,702	93	119	7	--	--	--	--	33	2	32	2	--	--	--	--	--	--
75+ years	1,084	100	1,013	93	63	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Male																				
Population 15+	10,266	100	9,709	95	546	5	119	1	92	1	155	2	93	1	79	1	--	--	--	--
15-24 years	1,935	100	1,853	96	83	4	32	2	--	--	--	--	--	--	--	--	--	--	--	--
25-44 years	4,476	100	4,236	95	239	5	59	1	50	1	74	2	--	--	29	1	--	--	--	--
45-64 years	2,611	100	2,452	94	153	6	--	--	--	--	47	2	--	--	--	--	--	--	--	--
65+ years	1,245	100	1,169	94	72	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
65-74 years	796	100	744	93	51	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
75+ years	448	100	425	95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Female																				
Population 15+	10,715	100	9,849	92	846	8	127	1	181	2	254	2	141	1	137	1	--	--	--	--
15-24 years	1,857	100	1,750	94	106	6	--	--	25	1	28	2	--	--	--	--	--	--	--	--
25-44 years	4,530	100	4,123	91	403	9	49	1	110	2	114	3	67	1	58	1	--	--	--	--
45-64 years	2,664	100	2,430	91	227	9	--	--	28	1	81	3	34	1	51	2	--	--	--	--
65+ years	1,664	100	1,546	93	111	7	--	--	--	--	30	2	--	--	--	--	--	--	--	--
65-74 years	1,028	100	958	93	68	7	--	--	--	--	--	--	--	--	--	--	--	--	--	--
75+ years	636	100	588	93	43	7	--	--	--	--	--	--	--	--	--	--	--	--	--	--

General Social Survey, 1991

TABLE 7-7
Flu shots recommended then flu shots received in fall or winter 1990-91 by sex and age group, age 15+, Canada, 1991

Sex and age group	Total population 15+		Flu shots recommended(1)						Flu shots received(1)					
			Yes		No		Not stated		Yes		No		Do not know/not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)													
Both sexes														
Population 15+	20,981	100	2,879	14	18,067	86	35	--	2,896	14	17,820	85	265	1
15-24 years	3,793	100	154	4	3,629	96	--	--	257	7	3,459	91	77	2
25-44 years	9,005	100	481	5	8,519	95	--	--	610	7	8,317	92	78	1
45-64 years	5,275	100	771	15	4,497	85	--	--	725	14	4,485	85	65	1
65+ years	2,908	100	1,473	51	1,422	49	--	--	1,303	45	1,560	54	45	2
65-74 years	1,824	100	883	48	933	51	--	--	789	43	1,012	55	--	--
75+ years	1,084	100	589	54	489	45	--	--	514	47	547	50	--	--
Male														
Population 15+	10,266	100	1,180	11	9,065	88	--	--	1,331	13	8,761	85	173	2
15-24 years	1,935	100	83	4	1,844	95	--	--	142	7	1,730	89	--	--
25-44 years	4,476	100	210	5	4,264	95	--	--	294	7	4,124	92	--	--
45-64 years	2,611	100	295	11	2,311	89	--	--	332	13	2,246	86	--	--
65+ years	1,245	100	592	48	646	52	--	--	563	45	661	53	--	--
65-74 years	796	100	345	43	448	56	--	--	334	42	447	56	--	--
75+ years	448	100	247	55	198	44	--	--	229	51	214	48	--	--
Female														
Population 15+	10,715	100	1,699	16	9,002	84	--	--	1,564	15	9,059	85	91	1
15-24 years	1,857	100	71	4	1,786	96	--	--	115	6	1,728	93	--	--
25-44 years	4,530	100	272	6	4,255	94	--	--	316	7	4,194	93	--	--
45-64 years	2,664	100	475	18	2,185	82	--	--	393	15	2,239	84	--	--
65+ years	1,664	100	881	53	776	47	--	--	740	44	898	54	25	2
65-74 years	1,028	100	539	52	485	47	--	--	455	44	565	55	--	--
75+ years	636	100	342	54	291	46	--	--	285	45	333	52	--	--

General Social Survey, 1991

(1) Number and proportion do not add to totals as these are separate variables.

TABLE 7-8
Reasons for not receiving flu shots in fall or winter 1990-91 by sex and income adequacy, population aged 15+ who did not receive flu shots, Canada, 1991

Sex and income adequacy	Total not receiving flu shots		Reasons for not receiving flu shots[1]																							
			Doctor did not mention		Doctor did not think necessary		Never thought about it		Flu not serious		Have not heard about it		Too busy		Hardly ever get the flu		Fear of side effects		Flu shot does not work		Costs too much		Other		Do not know	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)																									
Both sexes																										
Total	17,820	100	2,161	12	550	3	3,970	22	688	4	1,319	7	506	3	7,060	40	1,015	6	771	4	40	--	1,648	9	376	2
Lowest	665	100	95	14	--	--	143	22	--	--	48	7	--	--	217	33	72	11	27	4	--	--	71	11	--	--
Lower middle	1,287	100	171	13	39	3	231	18	47	4	108	8	29	2	483	38	92	7	42	3	--	--	166	13	--	--
Middle	4,066	100	481	12	122	3	833	20	236	6	304	7	100	2	1,648	41	260	6	182	4	--	--	401	10	66	2
Upper middle	5,179	100	576	11	138	3	1,207	23	210	4	328	6	138	3	2,245	43	248	5	247	5	--	--	520	10	100	2
Highest	1,961	100	225	11	55	3	407	21	85	4	96	5	86	4	837	43	69	4	96	5	--	--	195	10	--	--
Not stated	4,662	100	614	13	175	4	1,150	25	94	2	435	9	135	3	1,630	35	275	6	176	4	--	--	295	6	139	3
Male																										
Total	8,761	100	1,053	12	185	2	2,141	24	328	4	770	9	252	3	3,620	41	333	4	331	4	--	--	631	7	215	2
Lowest	226	100	--	--	--	--	63	28	--	--	30	13	--	--	75	33	--	--	--	--	--	--	--	--	--	--
Lower middle	527	100	52	10	--	--	110	21	--	--	61	11	--	--	212	40	--	--	--	--	--	--	62	12	--	--
Middle	1,899	100	234	12	41	2	402	21	96	5	177	9	44	2	832	44	92	5	66	3	--	--	129	7	33	2
Upper middle	2,781	100	325	12	44	2	685	25	118	4	218	8	72	3	1,206	43	93	3	128	5	--	--	220	8	60	2
Highest	1,227	100	149	12	--	--	279	23	48	4	71	6	57	5	526	43	31	3	62	5	--	--	106	9	--	--
Not stated	2,102	100	270	13	47	2	601	29	40	2	214	10	54	3	769	37	84	4	54	3	--	--	101	5	88	4
Female																										
Total	9,059	100	1,108	12	364	4	1,830	20	359	4	548	6	254	3	3,440	38	682	8	440	5	35	--	1,017	11	161	2
Lowest	438	100	71	16	--	--	80	18	--	--	--	--	--	--	142	32	59	13	--	--	--	--	59	13	--	--
Lower middle	760	100	119	16	--	--	121	16	26	3	47	6	--	--	271	36	71	9	31	4	--	--	104	14	--	--
Middle	2,168	100	247	11	80	4	431	20	140	6	127	6	56	3	815	38	168	8	116	5	--	--	271	13	33	2
Upper middle	2,399	100	251	10	94	4	522	22	92	4	109	5	66	3	1,039	43	154	6	120	5	--	--	300	12	40	2
Highest	734	100	76	10	--	--	128	17	36	5	--	--	--	--	311	42	38	5	--	--	--	--	90	12	--	--
Not stated	2,560	100	344	13	128	5	549	21	54	2	222	9	81	3	861	34	191	7	123	5	--	--	194	8	51	2

General Social Survey, 1991

(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of affirmative responses shown.

CHAPTER 8

ALCOHOL USE

8.1 HIGHLIGHTS

- Approximately 11.6 million persons, representing 55% of adult Canadians, are current drinkers—i.e., they report consuming alcoholic beverages at least once a month. This is a decrease from 63% in 1985.

- Men are more likely than women to be current drinkers and to consume more alcohol per week. Two-thirds of men are current drinkers (67%), compared to 44% of women. Fifteen percent of male current drinkers consume 14 or more drinks per week, compared to 4% of female current drinkers.

- At all ages, for current drinkers, the volume of alcohol consumed by males is greater than the volume consumed by females. On average, males consume 6.7 drinks per week compared to 3.2 by females.

- A higher proportion of younger Canadians drink. Peak current drinker prevalence rates occur in the 20 to 24 age group for both men (80%) and women (58%).

- The prevalence of current drinkers is highest in British Columbia (61%) and Quebec (60%) and lowest in New Brunswick (47%).

- The prevalence of current drinking is directly associated with level of education. About 42% of persons who have not completed high school are current drinkers, compared to 67% of persons with a postsecondary school degree or diploma.

8.2 METHODS

In the 1991 GSS, frequency and volume of alcohol consumption were determined from the responses to Questions K1 to K6 (see Appendix II). A drink was defined for the respondent as consisting of one beer, one small glass of wine, or 1 ½ ounces of liquor.

The 1985 GSS format was modified for the 1991 GSS to enable comparisons with the 1985 Health Promotion Survey[1] and other recent surveys on drinking behaviour.[2] The introduction was changed to a more conversational style, and consumption over the seven days preceding the survey was described with the "drink wheel" format (Ques. K6). The classifications of current drinkers and weekly volume are comparable to those used in the report of the Canada Health Survey[3] and the 1990 Health Promotion Survey.[4]

For the purposes of this report, *current drinkers* are considered to be those persons who reported

drinking an alcoholic beverage at least once a month. Other types of drinkers are:

- *lifetime abstainers* — not even one drink in their life
- *former drinkers* — at least one drink in their life but none in the 12 months preceding the survey
- *occasional drinkers* — drink less than one drink per month

Current drinkers are further classified according to the volume of alcohol consumed in the seven days prior to the survey. This weekly volume is reported in categories of 0, 1–6, 7–13, and 14+ drinks. As the 1991 GSS data collection continued throughout the majority of the year (see Chapter 1), there is little chance of seasonal bias in these reports based on the previous week. It is therefore reasonable to refer to this quantity, in the aggregate, as weekly volume.

Non-response to the questions on alcohol consumption was comparable to that in other sections of the questionnaire, that is, less than 2% overall.

8.3 RESULTS

8.3.1 Prevalence and Volume of Drinking

Age and sex

In 1991, 11.6 million Canadians aged 15 and over reportedly consumed alcoholic beverages at least once a month. This represents 55% of the population (Table 8-1). There are wide variations in the prevalence of current drinking for different age and sex groups. The prevalence of current drinkers is highest in the 20 to 24 age group and then declines with advancing age. This pattern is apparent for both men and women (Figure 8-A), but, in all age groups, current drinking rates are higher for men than for women.

Overall, men are 1.5 times as likely to drink as women, but this ratio changes dramatically with age. Among 15 to 19-year-olds, there is near equality in the percentage of current drinkers: teenage men are 1.2 times more likely than women of the same age to be current drinkers. There is a steadily increasing gender gap in drinking with increasing age, until age 75 and over, when men are 2.3 times as likely as women to be current drinkers. A similar pattern was noted in the 1978-79 Canada Health Survey.[3]

About 6% of Canadian adults reported that they drank 14 or more drinks in the week prior to the survey; this is about 10% of current drinkers. Not only are men more likely to be current drinkers, they are also more likely to consume more than women. This pattern is true for all age groups. One in 10 Canadian men (10%) drink 14 or more drinks a week, compared to 2% of women (Table 8-1).

The implications of alcohol consumption for health and behaviour are associated with the timing of drinking behaviour and the total amount consumed on drinking occasions. The volume of alcohol consumed on a daily basis rises each day from Monday to Saturday among both males and females. On average, males consume 0.7 drinks on Monday compared to 2.7 drinks on Saturday. Corresponding means for females are 0.4 and 1.6 drinks.

If the number of drinks per week is compared for current drinkers rather than for the total population, 15% of male current drinkers consume over 14 drinks a week, compared to 4% of female current drinkers. Among both male and female current drinkers, the peak weekly consumption occurs among persons aged 20 to 24. About 19% of male current drinkers aged 20 to 24 drink over 14 drinks a week, compared to 5% of female current drinkers.

Province

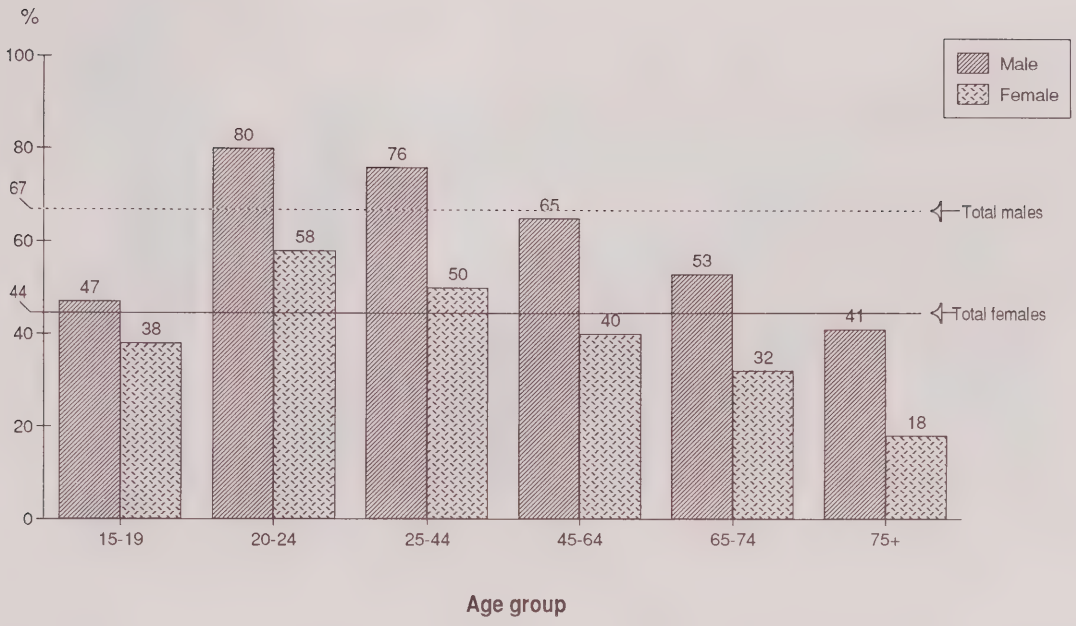
As with many other aspects of health, there are strong interprovincial differences in current drinking. The highest prevalence rates occur in British Columbia (61%) and Quebec (60%), while the lowest is in New Brunswick (47%) (Table 8-2).

Among men, current drinking prevalence rates range from 72% in British Columbia and Quebec to 58% in New Brunswick. Among women, the highest rates occur in British Columbia (51%) and the lowest in Newfoundland (34%). In the total population, the proportion of adults who drink 14 or more drinks per week is highest in British Columbia (8%), Quebec (7%), and Nova Scotia (7%). The smallest proportion of current drinkers at this level of consumption is in New Brunswick (4%).

Education

The prevalence of current drinking increases with education. Overall, about 42% of persons with less than a high school certificate are current drinkers,

FIGURE 8-A
Current drinkers by age group and sex, age 15+, Canada, 1991



General Social Survey, 1991

compared to 67% of persons with a postsecondary school degree or diploma. The rates for Canadians with a high school certificate or some postsecondary school education are intermediate between these two extremes (Table 8-3). Although both the prevalence of current drinking and education tend to be associated with age, this relationship of drinking with education holds true even within age groups. For example, in the important age group of 15 to 19, when drinking patterns become established, it is clear that the prevalence of drinking increases steeply with amount of education. This is less true for ages 20 to 24 (Figure 8-B). The proportion of current drinkers who consume 14 drinks or more a week in the total population is about the same in each educational category. Overall, about 6% of current drinkers consume 14 drinks or more per week. However, among persons aged 20-24, 14% of current drinkers with secondary graduation have 14 drinks or more per week. This level of consumption is twice that of persons aged 20-24 who have a postsecondary degree or diploma.

8.3.2 Drinking and Smoking

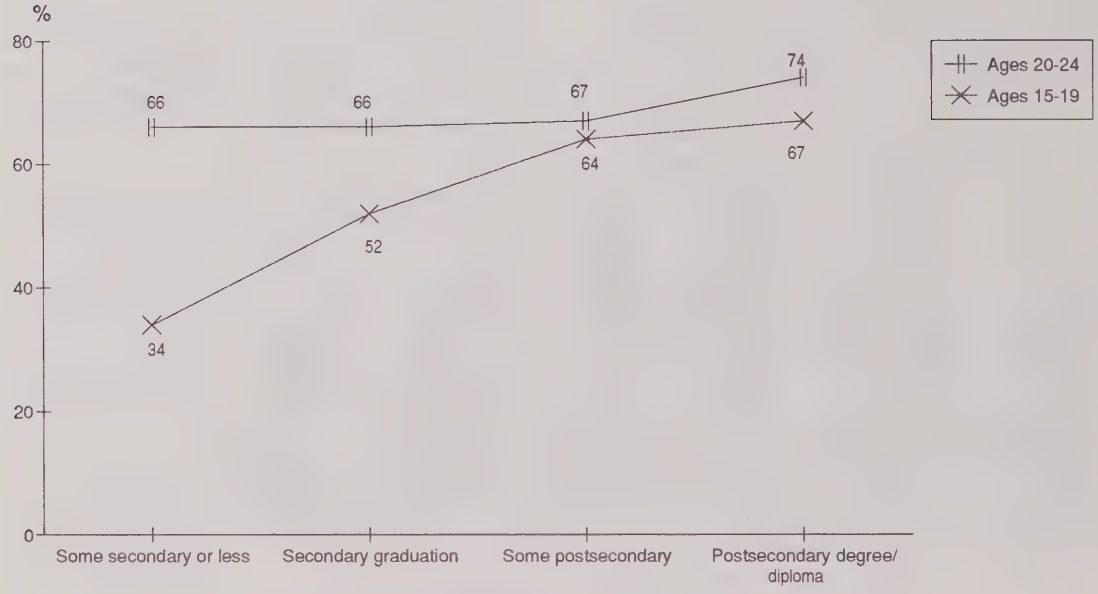
Overall, 55% of Canadian adults are current drinkers, but the prevalence of drinking varies with the prevalence of smoking (see Chapter 9). About 63% of regular smokers are current drinkers, compared to 61% of former smokers and 47% of persons who never smoked daily (Table 8-4).

In the total population, about 3.4 million adults are current drinkers and daily cigarette smokers. The prevalence of both current drinking and smoking increases with age and reaches a peak of 20% in the 25 to 44 age group, then declines to reach its lowest level (6%) in the 65 and over age group. Men are more likely to engage in both behaviours (20%) than women (13%) (data not shown).

8.3.3 Drinking and Chronic Health Problems

Table 8-5 compares the prevalence of selected health problems according to type of drinker. Compared to

FIGURE 8-B
Current drinkers by education and age group, ages 15-24, Canada, 1991



General Social Survey, 1991

former drinkers or lifetime abstainers, female current drinkers have a lower prevalence of hypertension, heart trouble, diabetes, arthritis and rheumatism, emphysema/bronchitis, digestive problems other than stomach ulcers, recurring migraines, and emotional disorders. For men, current drinkers have a similar advantage over former drinkers for these problems, but in the case of lifetime abstainers it is only generally true as there are a few exceptions — hypertension, arthritis, rheumatism, and migraines — where there is no advantage or even a disadvantage when rates are compared with current drinkers (data not shown).

Because of the relationship of age to both alcohol consumption and the prevalence of chronic problems (see Chapter 2), it is important to control for age when examining the relationship between drinking status and health. Indeed, the lower prevalence of selected health problems among current drinkers compared to former drinkers or lifetime abstainers is observed for ages 45 to 64 (Figure 8-C) and 65 and over.

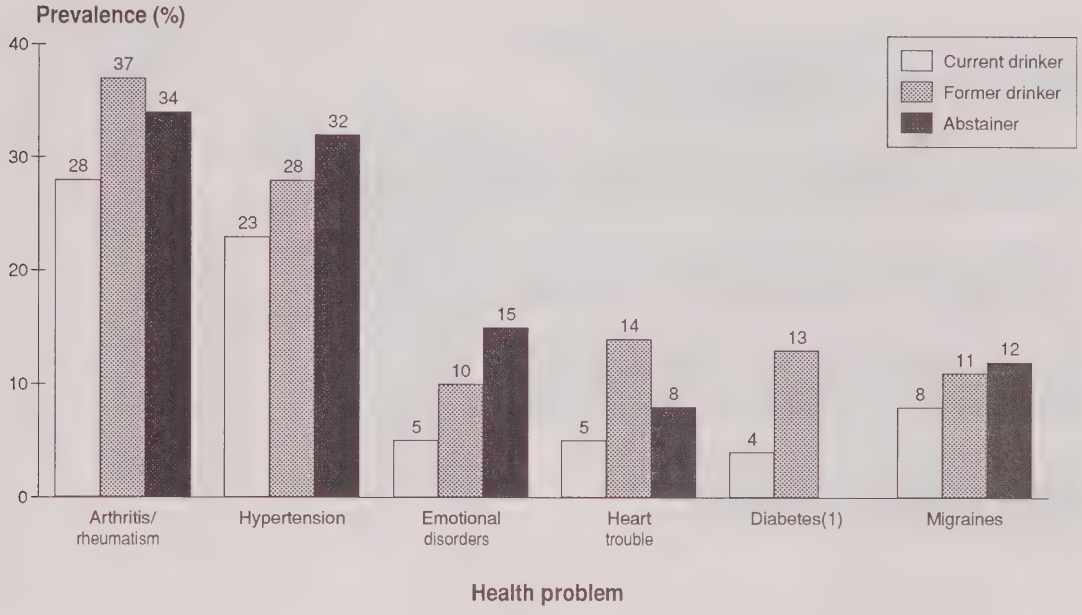
8.4 DISCUSSION

8.4.1 Change in Drinking Patterns Over Time

In 1985, 63% of the population were current drinkers[5] compared to 55% in 1991. The prevalence of current drinking declined over all age groups (Figure 8-D). This decline in drinking was evident in all regions of Canada, but was most evident in Ontario (66% in 1985 versus 51% in 1991) and least evident in Quebec (61% in 1985 versus 60% in 1991) (data not shown).

When the definition of drinker is broadened to anyone who drank within the year preceding the survey in order to make comparisons with other surveys, it appears that there has been little change since 1978. However, closer inspection suggests that Canadians are drinking more moderately in recent years (Text Table 8-A). Although the proportion of Canadians who reported that they were lifetime abstainers declined from 12% in 1978 to 9% in 1991, the

FIGURE 8-C
Prevalence (%) of health problems by type of drinker, ages 45-64, Canada, 1991



General Social Survey, 1991

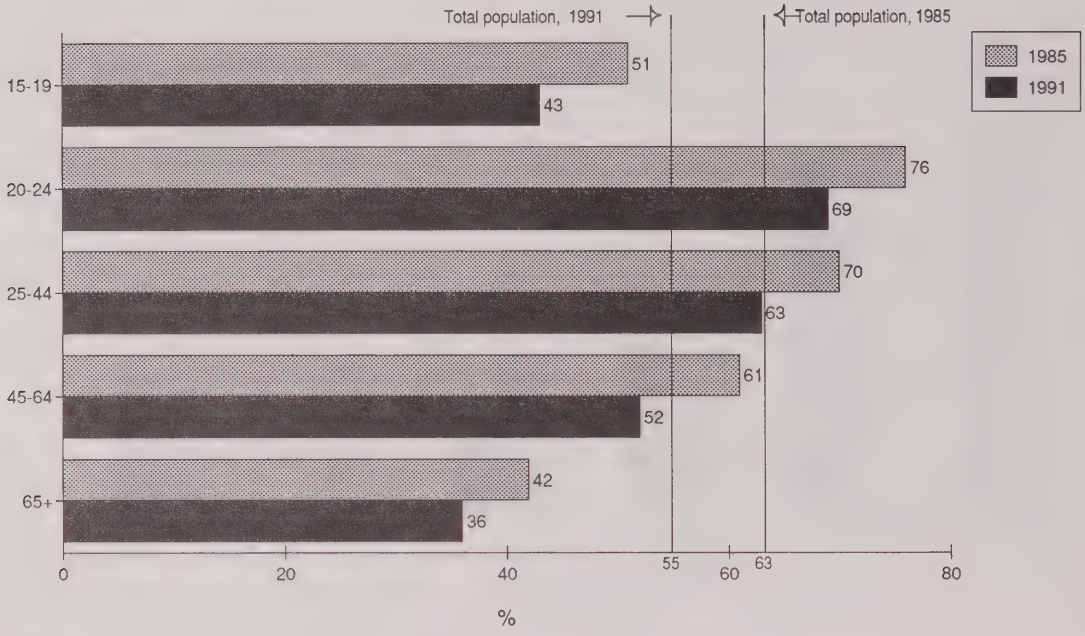
(1) Estimate for "Abstainers" too small to release.

TEXT TABLE 8-A
Type of drinking behaviour, selected national surveys, age 15+, Canada, 1978-79 to 1991[(1)]

	1978-79	1985	1985	1989	1990	1991
	CHS	GSS	HPS	NADS	HPS	GSS
	(Percent)					
Type of drinker						
Drink within year preceding survey	84	81	81	78	81	79
Former drinker	4	6	10	15	11	13
Lifetime abstainer	12	13	8	7	8	9
Frequency of drinking						
Occasional Drinker (<1 per month)	16	18	20	26	19	22
Current Drinker (1+ per month)	68	63	61	52	62	56

[(1)] Not Stated's Averaged In
CHS: Canada Health Survey, 1978-79[3]
GSS: General Social Survey, Cycle 1, 1985[5]; Cycle 6, 1991
HPS: Health Promotion Survey, 1985[1]; Health Promotion Survey, 1990[4]
NADS: National Alcohol and Other Drugs Survey, 1989[2]

FIGURE 8-D
Current drinkers by age group, age 15+, Canada, 1985 and 1991



General Social Survey, 1985 and 1991

proportion who stated that they were former drinkers increased from 4% in 1978-79 to 13% in 1991. Among those persons who drank within the year preceding the survey, a higher proportion were drinking less than once a month in 1991 (22%) than in 1978-79 (16%).

The volume of alcohol consumed by current drinkers also declined between 1978-79 and 1991 (Figure 8-E). The proportion of drinkers who reported that they consumed less than one drink per week increased from 13% in 1978-79 to 30% in 1991. There was also a noteworthy decline in the proportion of current drinkers who consumed 14 or more drinks per week, from 20% in 1978-79 to 11% in 1991.

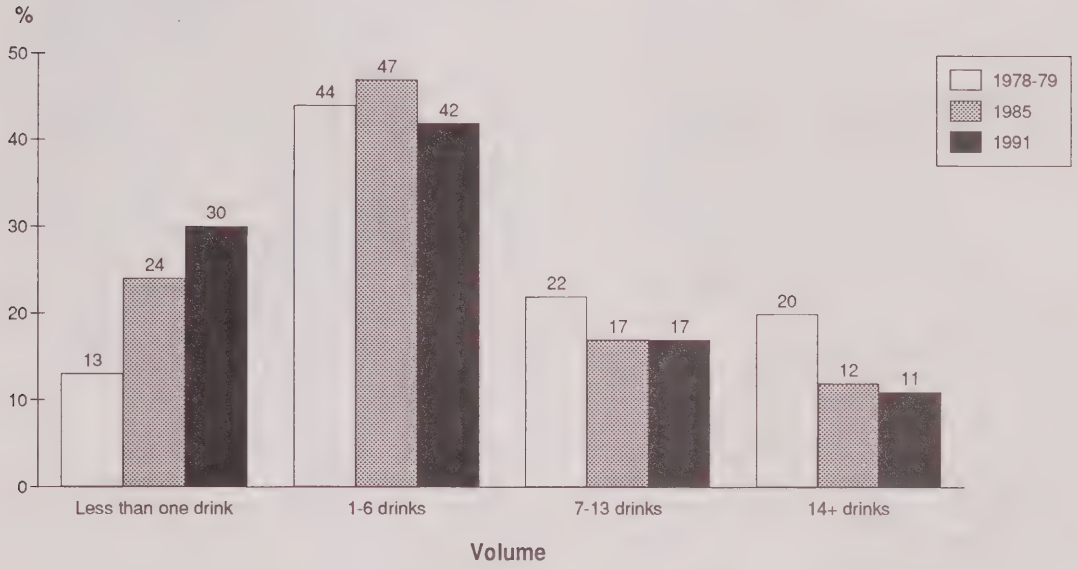
8.4.2 Methodological Issues

Several methodological issues affect the interpretation of data relating to alcohol consumption.

Because the survey is conducted by telephone, it excludes persons who do not have a telephone or who are transients; also excluded are residents of institutions and residents of Northern communities. These persons may differ from the population surveyed in terms of the prevalence of current drinking and in overall consumption levels. An additional consideration is that, even in the surveyed population, the accuracy of self-reported alcohol consumption may differ from more objective measurements of drinking behaviour.[6] Differences between self-reported behaviour and objective behaviour may vary by sex, socio-economic group, and age.

The validity of self-reported alcohol consumption is a complex methodological issue that has been the focus of much research by survey researchers and clinicians. Some researchers have tended to argue that, although self-reported consumption may underestimate actual consumption, at least persons may be classified in relative order in terms of their overall level of consumption.[7] An assumption of this argument is that the inclination to underreport consumption levels is about the same over all social groups, by age, sex, and time. Even if this were true, the mere ordering

FIGURE 8-E
Current drinkers by volume of alcohol consumed(1) in the week preceding the survey, age 15+, Canada, 1978-79, 1985 and 1991



Canada Health Survey 1978-79
General Social Survey, 1985 and 1991

(1) Proportions have been recalculated to exclude the unknown category from the total.

of persons into drinking categories may be inadequate to establish levels of consumption at which the risk of selected health problems increases.

The method of obtaining information relating to prevalence and the level of alcohol consumed in the 1991 GSS is based on a recall of the number of drinks consumed on each day during the preceding week. Some studies report higher drinking estimates when the respondent recalls drinking behaviour over the past month than within the past week. However, as noted earlier, the year-round nature of GSS data collection at least avoids problems of seasonality that arise if alcohol consumption is surveyed only during the summer or festive seasons.

These measurement problems, and others, complicate the assessment of changes in drinking status over time. Small nuances in the wording of questions relating to alcohol consumption may produce biases in estimates. Finally, responses to surveys may be influenced by historical events that occur around the time of the survey and by the social desirability of certain responses. For example, 4.4% of the Canada Health Survey sample refused to answer the questions about alcohol consumption in 1978-79; by 1991, this proportion was reduced to 1.3%.

Despite these difficulties, the declines in alcohol consumption documented by these surveys are supported by sales statistics. The most recent series relate to the fiscal year ended March 31, 1991. Data on the sales of alcoholic beverages in litres of absolute alcohol per capita for those 15 years and older show a decline in the number of litres of absolute alcohol, from 9.4 litres in 1986-87 to 8.5 litres in 1990-91. The decline in the number of absolute litres tends to be lower in Quebec and the Atlantic provinces and higher in Ontario and the western provinces.[8]

8.4.3 Substantive Issues

The findings in the 1991 GSS regarding the generally decreasing prevalence of alcohol consumption with advancing age are consistent with data from other reports.[1,4,5,9]

Interprovincial differences in alcohol consumption may reflect differences in the availability of alcohol, the social context of drinking, and other societal and population differences. For example, the social context in which alcohol is used in Quebec is different from that in other regions of Canada. Quebec differs from other regions in terms of the greater availability of alcohol through corner stores, more liberal conventions regarding the consumption of one's own wine or beer in restaurants, and norms that tend to associate drinking behaviour with eating behaviour.

A consistent pattern in the present survey is the overall tendency of former drinkers and lifetime abstainers to have a greater prevalence of self-reported health problems than current drinkers. This pattern has also been noted in surveys in other countries.[10,11] Former drinkers may have changed their drinking behaviour because of health problems that were induced by drinking or that may be exacerbated by drinking.

Females are less likely to be current drinkers and tend to consume less alcohol during a week. However, the effect of alcohol on physiological and metabolic processes differs by sex. Researchers have drawn attention to the fact that sex differences in body weight and composition affect blood alcohol levels. Although females consume less alcohol than men, they require smaller amounts of alcohol to achieve the same blood alcohol levels.[12] There is a need for further research on the unique behavioural and health implications of alcohol consumption among women. Further analysis of the General Social Survey data base could yield more detail on differences in drinking behaviour among males and females.

The per capita decline in alcohol consumption appears to be a phenomenon that has occurred in a number of industrialized countries. Factors responsible for the decline may be related to shifts in the age structure of industrialized countries towards an older population (younger drinkers tend to consume more alcohol) and an increased awareness of lifestyle and health issues within the general population.[13] The trend in alcohol consumption in Canada is important since relatively small changes in overall consumption may lead to substantial declines in alcohol-related problems.[14]

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TABLE 8-1
Type of drinker and volume of alcohol consumed in the week preceding the survey by sex and age group, age 15+, Canada, 1991

Sex and age group	Total population 15+		Type of drinker																			
			Lifetime abstainer		Former drinker		Occasional drinker		Current drinker and weekly volume consumed												Type of drinker n.s.	
									Current drinker		Less than 1 drink		1-6 drinks		7-13 drinks		14+ drinks		No. drinks n.s.			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)																					
Both sexes																						
Population 15+	20,981	100	1,820	9	2,609	12	4,656	22	11608	55	3,440	16	4,852	23	1,982	9	1,211	6	124	1	287	1
15-24 years	3,793	100	470	12	307	8	872	23	2,137	56	828	22	729	19	301	8	259	7	--	--	--	--
15-19 years	1,825	100	365	20	173	9	505	28	783	43	383	21	254	14	63	3	81	4	--	--	--	--
20-24 years	1,967	100	106	5	134	7	366	19	1,355	69	445	23	475	24	238	12	179	9	--	--	--	--
25-44 years	9,005	100	515	6	769	9	1,968	22	5,661	63	1,667	19	2,493	28	929	10	533	6	40	--	92	1
45-64 years	5,275	100	409	8	846	16	1,169	22	2,755	52	647	12	1,219	23	548	10	304	6	38	1	97	2
65+ years	2,908	100	426	15	687	24	648	22	1,055	36	298	10	411	14	203	7	115	4	26	1	92	3
65-74 years	1,824	100	229	13	365	20	425	23	757	42	204	11	301	16	140	8	95	5	--	--	48	3
75+ years	1,084	100	197	18	323	30	223	21	297	27	94	9	111	10	63	6	--	--	--	--	44	4
Male																						
Population 15+	10,266	100	574	6	1,051	10	1,574	15	6,929	67	1,771	17	2,652	26	1,389	14	1,024	10	94	1	138	1
15-24 years	1,935	100	214	11	143	7	338	17	1,238	64	442	23	367	19	210	11	207	11	--	--	--	--
15-19 years	936	100	185	20	90	10	220	23	441	47	201	21	139	15	41	4	58	6	--	--	--	--
20-24 years	1,000	100	--	--	53	5	119	12	797	80	241	24	227	23	169	17	149	15	--	--	--	--
25-44 years	4,476	100	160	4	267	6	624	14	3,381	76	877	20	1,366	31	645	14	463	10	30	1	44	1
45-64 years	2,611	100	102	4	372	14	375	14	1,702	65	313	12	700	27	406	16	255	10	--	--	59	2
65+ years	1,245	100	98	8	269	22	237	19	608	49	140	11	220	18	128	10	100	8	--	--	33	3
65-74 years	796	100	62	8	151	19	148	19	425	53	87	11	160	20	81	10	82	10	--	--	--	--
75+ years	448	100	36	8	118	26	89	20	183	41	53	12	59	13	47	10	--	--	--	--	--	--
Female																						
Population 15+	10,715	100	1,246	12	1,558	15	3,082	29	4,679	44	1,669	16	2,200	21	592	6	187	2	31	--	150	1
15-24 years	1,857	100	256	14	163	9	533	29	899	48	386	21	362	19	91	5	53	3	--	--	--	--
15-19 years	890	100	180	20	82	9	286	32	342	38	182	20	114	13	--	--	--	--	--	--	--	--
20-24 years	968	100	77	8	81	8	247	26	557	58	204	21	248	26	68	7	30	3	--	--	--	--
25-44 years	4,530	100	355	8	502	11	1,344	30	2,281	50	790	17	1,127	25	284	6	70	2	--	--	47	1
45-64 years	2,664	100	307	12	474	18	794	30	1,053	40	334	13	519	19	142	5	49	2	--	--	38	1
65+ years	1,664	100	328	20	418	25	411	25	446	27	158	10	192	12	76	5	--	--	--	--	60	4
65-74 years	1,028	100	167	16	214	21	277	27	332	32	116	11	140	14	59	6	--	--	--	--	38	4
75+ years	636	100	160	25	205	32	134	21	114	18	42	7	51	8	--	--	--	--	--	--	--	--

General Social Survey, 1991

TABLE 8-2
Type of drinker and volume of alcohol consumed in the week preceding the survey by sex and province, age 15+, Canada, 1991

Sex and province	Type of drinker																					
	Total population 15+		Lifetime abstainer		Former drinker		Occasional drinker		Current drinker and weekly volume consumed												Type of drinker n.s.	
									Current drinker		Less than 1 drink		1-6 drinks		7-13 drinks		14 + drinks		No. drinks n.s.			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)																					
Both sexes																						
Canada	20,981	100	1,820	9	2,609	12	4,656	22	11,608	55	3,440	16	4,852	23	1,982	9	1,211	6	124	1	287	1
Atlantic	1,806	100	191	11	289	16	411	23	899	50	268	15	364	20	136	8	113	6	18	1	16	1
Newfoundland	438	100	53	12	56	13	100	23	225	51	69	16	80	18	34	8	36	8	--	--	--	--
Prince Edward Island	98	100	9	9	16	16	20	20	54	54	16	16	25	26	6	6	--	--	--	--	--	--
Nova Scotia	704	100	82	12	88	13	170	24	357	51	107	15	139	20	55	8	50	7	--	--	--	--
New Brunswick	566	100	48	8	129	23	120	21	264	47	76	13	121	21	41	7	22	4	--	--	--	--
Quebec	5,384	100	524	10	524	10	1,088	20	3,228	60	820	15	1,573	29	469	9	357	7	--	--	--	--
Ontario	7,778	100	651	8	1,061	14	1,889	24	4,001	51	1,334	17	1,508	19	756	10	354	5	49	1	176	2
Prairies	3,482	100	283	8	447	13	763	22	1,933	56	592	17	774	22	340	10	186	5	41	1	55	2
Manitoba	839	100	66	8	107	13	190	23	459	55	143	17	180	21	76	9	54	6	--	--	16	2
Saskatchewan	742	100	67	9	103	14	171	23	389	52	124	17	164	22	51	7	44	6	--	--	11	2
Alberta	1,901	100	150	8	236	12	402	21	1,085	57	325	17	431	23	213	11	88	5	28	1	28	1
British Columbia	2,532	100	171	7	289	11	504	20	1,548	61	426	17	632	25	281	11	203	8	--	--	--	--
Male																						
Canada	10,266	100	574	6	1,051	10	1,574	15	6,929	67	1,771	17	2,652	26	1,389	14	1,024	10	94	1	138	1
Atlantic	885	100	66	7	137	15	120	14	553	62	133	15	196	22	108	12	101	11	--	--	9	1
Newfoundland	217	100	17	8	24	11	23	10	151	69	37	17	47	22	27	12	33	15	--	--	--	--
Prince Edward Island	48	100	--	--	9	18	8	17	29	60	8	16	12	24	--	--	--	--	--	--	--	--
Nova Scotia	343	100	28	8	49	14	50	15	213	62	48	14	71	21	42	12	46	14	--	--	--	--
New Brunswick	277	100	19	7	55	20	39	14	161	58	39	14	67	24	35	13	17	6	--	--	--	--
Quebec	2,617	100	127	5	220	8	386	15	1,876	72	384	15	851	33	330	13	302	12	--	--	--	--
Ontario	3,796	100	218	6	374	10	684	18	2,435	64	707	19	865	23	529	14	292	8	--	--	86	2
Prairies	1,725	100	107	6	190	11	226	13	1,173	68	330	19	404	23	248	14	163	9	28	2	29	2
Manitoba	411	100	16	4	52	13	67	16	264	64	78	19	83	20	56	14	45	11	--	--	--	--
Saskatchewan	367	100	27	7	43	12	52	14	241	66	68	19	94	26	35	9	38	10	--	--	--	--
Alberta	948	100	63	7	95	10	107	11	668	70	184	19	227	24	158	17	80	8	--	--	--	--
British Columbia	1,243	100	56	5	131	11	157	13	892	72	217	17	336	27	173	14	165	13	--	--	--	--
Female																						
Canada	10,715	100	1,246	12	1,558	15	3,082	29	4,679	44	1,669	16	2,200	21	592	6	187	2	31	--	150	1
Atlantic	921	100	125	14	152	17	290	32	346	38	135	15	168	18	28	3	--	--	--	--	--	--
Newfoundland	221	100	36	16	32	14	78	35	74	34	31	14	33	15	--	--	--	--	--	--	--	--
Prince Edward Island	50	100	7	14	7	14	12	23	25	49	8	16	13	27	--	--	--	--	--	--	--	--
Nova Scotia	361	100	53	15	40	11	120	33	144	40	59	16	68	19	--	--	--	--	--	--	--	--
New Brunswick	289	100	29	10	74	26	81	28	103	36	36	13	54	19	--	--	--	--	--	--	--	--
Quebec	2,767	100	397	14	304	11	702	25	1,351	49	436	16	722	26	138	5	55	2	--	--	--	--
Ontario	3,982	100	433	11	687	17	1,206	30	1,566	39	627	16	644	16	226	6	61	2	--	--	90	2
Prairies	1,756	100	177	10	257	15	537	31	760	43	262	15	370	21	92	5	22	1	--	--	26	2
Manitoba	428	100	50	12	55	13	123	29	195	46	65	15	97	23	21	5	--	--	--	--	--	--
Saskatchewan	375	100	40	11	60	16	119	32	148	39	56	15	70	19	16	4	--	--	--	--	--	--
Alberta	953	100	87	9	141	15	295	31	416	44	141	15	203	21	55	6	--	--	--	--	--	--
British Columbia	1,288	100	115	9	158	12	347	27	656	51	208	16	296	23	108	8	37	3	--	--	--	--

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TABLE 8-3
Type of drinker and volume of alcohol consumed in the week preceding the survey by age group and education, age 15+, Canada, 1991

Age group and education	Total population 15+		Type of drinker																			
			Lifetime abstainer		Former drinker		Occasional drinker		Current drinker and weekly volume consumed												Type of drinker n.s.	
									Current drinker		Less than 1 drink		1-6 drinks		7-13 drinks		14 + drinks		No. drinks n.s.			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)																					
Population 15+																						
All levels	20,981	100	1,820	9	2,609	12	4,656	22	11,608	55	3,440	16	4,852	23	1,982	9	1,211	6	124	1	287	1
Some Sec or less	7,190	100	1,057	15	1,330	18	1,753	24	3,022	42	1,031	14	1,090	15	520	7	332	5	49	1	28	--
Sec graduation	3,399	100	232	7	341	10	801	24	2,013	59	606	18	817	24	333	10	245	7	--	--	--	--
Some postsec	3,401	100	177	5	345	10	800	24	2,071	61	577	17	873	26	348	10	247	7	27	1	--	--
Postsec deg/dip	6,601	100	311	5	566	9	1,276	19	4,432	67	1,198	18	2,055	31	768	12	378	6	34	1	--	--
Not stated	390	100	42	11	28	7	26	7	70	18	--	--	--	--	--	--	--	--	--	--	223	57
15-24 years																						
All levels	3,793	100	470	12	307	8	872	23	2,137	56	828	22	729	19	301	8	259	7	--	--	--	--
Some Sec or less	1,472	100	326	22	162	11	397	27	587	40	302	21	174	12	55	4	53	4	--	--	--	--
Sec graduation	629	100	--	--	44	7	150	24	380	60	141	22	109	17	59	9	72	11	--	--	--	--
Some postsec	1,023	100	58	6	70	7	215	21	679	66	201	20	263	26	108	11	92	9	--	--	--	--
Postsec deg/dip	650	100	--	--	31	5	109	17	478	74	175	27	180	28	80	12	43	7	--	--	--	--
Not stated	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
15-19 years																						
All levels	1,825	100	365	20	173	9	505	28	783	43	383	21	254	14	63	3	81	4	--	--	--	--
Some Sec or less	1,199	100	307	26	137	11	350	29	405	34	222	18	125	10	31	3	--	--	--	--	--	--
Sec graduation	252	100	--	--	--	--	79	31	132	52	60	24	35	14	--	--	--	--	--	--	--	--
Some postsec	312	100	--	--	--	--	66	21	200	64	73	24	79	25	--	--	--	--	--	--	--	--
Postsec deg/dip	52	100	--	--	--	--	--	--	35	67	--	--	--	--	--	--	--	--	--	--	--	--
Not stated	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
20-24 years																						
All levels	1,967	100	106	5	134	7	366	19	1,355	69	445	23	475	24	238	12	179	9	--	--	--	--
Some Sec or less	274	100	--	--	--	--	47	17	182	66	80	29	50	18	--	--	27	10	--	--	--	--
Sec graduation	377	100	--	--	32	8	71	19	248	66	80	21	74	20	42	11	52	14	--	--	--	--
Some postsec	711	100	--	--	46	6	149	21	479	67	128	18	184	26	93	13	59	8	--	--	--	--
Postsec deg/dip	598	100	--	--	31	5	99	17	443	74	156	26	167	28	79	13	41	7	--	--	--	--
Not stated	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25-44 years																						
All levels	9,005	100	515	6	769	9	1,968	22	5,661	63	1,667	19	2,493	28	929	10	533	6	40	--	92	1
Some Sec or less	1,841	100	189	10	218	12	431	23	996	54	360	20	325	18	178	10	122	7	--	--	--	--
Sec graduation	1,697	100	114	7	138	8	410	24	1,030	61	298	18	431	25	191	11	105	6	--	--	--	--
Some postsec	1,509	100	53	4	158	10	378	25	918	61	265	18	412	27	138	9	92	6	--	--	--	--
Postsec deg/dip	3,835	100	149	4	247	6	737	19	2,690	70	737	19	1,314	34	420	11	206	5	--	--	--	--
Not stated	124	100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	67	54
45-64 years																						
All levels	5,275	100	409	8	846	16	1,169	22	2,755	52	647	12	1,219	23	548	10	304	6	38	1	97	2
Some Sec or less	2,210	100	244	11	489	22	546	25	919	42	214	10	384	17	196	9	112	5	--	--	--	--
Sec graduation	767	100	40	5	92	12	165	22	467	61	124	16	224	29	61	8	53	7	--	--	--	--
Some postsec	566	100	28	5	61	11	128	23	346	61	79	14	141	25	79	14	47	8	--	--	--	--
Postsec deg/dip	1,614	100	83	5	198	12	323	20	1,008	62	220	14	468	29	209	13	91	6	--	--	--	--
Not stated	117	100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	77	66
65+ years																						
All levels	2,908	100	426	15	687	24	648	22	1,055	36	298	10	411	14	203	7	115	4	26	1	92	3
Some Sec or less	1,667	100	297	18	461	28	379	23	519	31	155	9	207	12	91	5	45	3	--	--	--	--
Sec graduation	305	100	--	--	66	22	75	25	137	45	43	14	54	18	--	--	--	--	--	--	--	--
Some postsec	303	100	38	12	57	19	78	26	128	42	31	10	56	19	--	--	--	--	--	--	--	--
Postsec deg/dip	502	100	48	10	89	18	106	21	256	51	65	13	93	19	59	12	38	8	--	--	--	--
Not stated	130	100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	73	56

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TABLE 8-4
Type of drinker by age group and type of smoker, age 15+, Canada, 1991

Age group and type of smoker	Total population 15+		Type of drinker: Current drinker		Occasional drinker		Former drinker		Never drank		Type of drinker n.s.	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)											
Population 15+												
Total	20,981	100	11,608	55	4,656	22	2,609	12	1,820	9	287	1
Current smoker	6,469	100	4,143	64	1,339	21	693	11	265	4	29	--
Regular smoker	5,434	100	3,419	63	1,138	21	627	12	229	4	--	--
Occasional smoker	1,035	100	724	70	202	19	66	6	35	3	--	--
Never daily smoker	9,422	100	4,467	47	2,267	24	1,266	13	1,384	15	38	--
Former smoker	4,891	100	2,994	61	1,047	21	650	13	171	3	28	1
Not stated	199	100	--	--	--	--	--	--	--	--	192	96
15-24 years												
Total	3,793	100	2,137	56	872	23	307	8	470	12	--	--
Current smoker	1,192	100	859	72	233	20	66	6	35	3	--	--
Regular smoker	840	100	577	69	180	21	54	6	--	--	--	--
Occasional smoker	352	100	282	80	53	15	--	--	--	--	--	--
Never daily smoker	2,273	100	1,060	47	562	25	219	10	433	19	--	--
Former smoker	318	100	219	69	74	23	--	--	--	--	--	--
Not stated	--	--	--	--	--	--	--	--	--	--	--	--
15-19 years												
Total	1,825	100	783	43	505	28	173	9	365	20	--	--
Current smoker	412	100	241	59	124	30	--	--	--	--	--	--
Regular smoker	296	100	169	57	93	31	--	--	--	--	--	--
Occasional smoker	116	100	72	62	--	--	--	--	--	--	--	--
Never daily smoker	1,306	100	473	36	346	27	138	11	349	27	--	--
Former smoker	108	100	69	64	--	--	--	--	--	--	--	--
20-24 years												
Total	1,967	100	1,355	69	366	19	134	7	106	5	--	--
Current smoker	781	100	618	79	109	14	34	4	--	--	--	--
Regular smoker	544	100	408	75	87	16	32	6	--	--	--	--
Occasional smoker	237	100	209	89	--	--	--	--	--	--	--	--
Never daily smoker	967	100	587	61	216	22	81	8	84	9	--	--
Former smoker	210	100	150	72	38	18	--	--	--	--	--	--
Not stated	--	--	--	--	--	--	--	--	--	--	--	--
25-44 years												
Total	9,005	100	5,661	63	1,968	22	769	9	515	6	92	1
Current smoker	3,225	100	2,121	66	709	22	267	8	118	4	--	--
Regular smoker	2,823	100	1,833	65	634	22	250	9	104	4	--	--
Occasional smoker	401	100	288	72	75	19	--	--	--	--	--	--
Never daily smoker	3,816	100	2,222	58	847	22	360	9	369	10	--	--
Former smoker	1,911	100	1,318	69	413	22	143	7	29	1	--	--
Not stated	54	100	--	--	--	--	--	--	--	--	54	100
45-64 years												
Total	5,275	100	2,755	52	1,169	22	846	16	409	8	97	2
Current smoker	1,587	100	936	59	312	20	254	16	69	4	--	--
Regular smoker	1,385	100	823	59	263	19	225	16	60	4	--	--
Occasional smoker	202	100	114	56	50	25	29	15	--	--	--	--
Never daily smoker	2,054	100	870	42	549	27	348	17	277	14	--	--
Former smoker	1,563	100	946	61	308	20	243	16	62	4	--	--
Not stated	71	100	--	--	--	--	--	--	--	--	68	96
65+ years												
Total	2,908	100	1,055	36	648	22	687	24	426	15	92	3
Current smoker	465	100	226	49	85	18	106	23	43	9	--	--
Regular smoker	386	100	186	48	62	16	97	25	37	9	--	--
Occasional smoker	79	100	40	51	--	--	--	--	--	--	--	--
Never daily smoker	1,279	100	316	25	309	24	339	27	305	24	--	--
Former smoker	1,099	100	511	47	253	23	242	22	77	7	--	--
Not stated	65	100	--	--	--	--	--	--	--	--	63	97

General Social Survey, 1991

TABLE 8-5
Prevalence of selected health problems by age group and type of drinker, age 15+, Canada, 1991

Age group and type of drinker	Total population 15+		Any health problem		Hyper-tension		Heart trouble		Diabetes		Arthritis / rheumatism		Asthma		Emphyse-ma, etc.		Hay fever		Skin or other allergies		Stomach ulcer		Other digestive problems		Recurring migraines		High blood cholesterol		Any emotional disorders	
	Health problem(1)																													
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)																													
Population 15+																														
Total	20,981	100	13,168	63	3,311	16	1,437	7	740	4	4,335	21	1,238	6	1,671	8	2,528	12	4,340	21	969	5	1,634	8	1,950	9	1,759	8	1,114	5
Cur. drinker	11,608	100	6,885	59	1,629	14	560	5	257	2	1,901	16	631	5	732	6	1,492	13	2,287	20	477	4	723	6	874	8	907	8	414	4
Occ. drinker	4,656	100	3,009	65	709	15	307	7	146	3	1,103	24	280	6	413	9	571	12	1,134	24	231	5	436	9	587	13	370	8	266	6
Former drinker	2,609	100	1,942	74	587	23	372	14	208	8	826	32	190	7	322	12	272	10	574	22	174	7	298	11	292	11	302	12	234	9
Never drank	1,820	100	1,174	65	321	18	176	10	115	6	417	23	124	7	178	10	181	10	329	18	76	4	163	9	184	10	161	9	186	10
Drinker type, n.s.	287	100	158	55	64	22	--	--	--	--	89	31	--	--	27	9	--	--	--	--	--	--	--	--	--	--	--	--	--	--
15-44 years																														
Total	12,798	100	6,810	53	979	8	320	2	159	1	1,096	9	784	6	705	6	1,771	14	2,865	22	522	4	690	5	1,246	10	537	4	464	4
Cur. drinker	7,799	100	4,052	52	640	8	187	2	73	1	595	8	455	6	364	5	1,111	14	1,667	21	315	4	370	5	607	8	355	5	207	3
Occ. drinker	2,839	100	1,580	56	202	7	57	2	42	1	312	11	187	7	202	7	390	14	723	25	110	4	194	7	393	14	87	3	116	4
Former drinker	1,076	100	650	60	81	8	47	4	--	--	128	12	82	8	75	7	143	13	273	25	62	6	71	7	144	13	62	6	76	7
Never drank	985	100	507	51	47	5	--	--	--	--	56	6	59	6	62	6	123	12	201	20	--	--	55	6	101	10	--	--	65	7
Drinker type, n.s.	98	100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
45-64 years																														
Total	5,275	100	3,866	73	1,271	24	411	8	289	5	1,685	32	252	5	440	8	523	10	947	18	255	5	538	10	524	10	834	16	388	7
Cur. drinker	2,755	100	1,949	71	638	23	149	5	97	4	768	28	128	5	199	7	289	11	441	16	98	4	235	9	224	8	416	15	142	5
Occ. drinker	1,169	100	878	75	247	21	106	9	47	4	435	37	54	5	96	8	132	11	282	24	87	7	133	11	151	13	197	17	92	8
Former drinker	846	100	682	81	233	28	123	14	110	13	315	37	40	5	108	13	74	9	170	20	45	5	121	14	93	11	147	17	85	10
Never drank	409	100	303	74	131	32	33	8	--	--	137	34	--	--	28	7	--	--	47	12	--	--	42	10	50	12	66	16	61	15
Drinker type, n.s.	97	100	54	56	--	--	--	--	--	--	30	31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
65+ years																														
Total	2,908	100	2,491	86	1,061	36	705	24	293	10	1,554	53	201	7	527	18	234	8	528	18	192	7	406	14	180	6	387	13	262	9
Cur. drinker	1,055	100	884	84	351	33	225	21	86	8	539	51	48	5	169	16	92	9	178	17	64	6	118	11	44	4	136	13	64	6
Occ. drinker	648	100	551	85	261	40	144	22	58	9	356	55	39	6	115	18	48	7	129	20	34	5	109	17	43	7	86	13	58	9
Former drinker	687	100	609	89	273	40	203	29	82	12	383	56	67	10	138	20	55	8	131	19	66	10	107	16	54	8	93	14	73	11
Never drank	426	100	364	86	144	34	114	27	57	14	224	53	43	10	88	21	32	8	81	19	25	6	66	15	33	8	63	15	60	14
Drinker type, n.s.	92	100	83	90	31	34	--	--	--	--	53	57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

General Social Survey, 1991

(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of affirmative responses shown.

CHAPTER 9

SMOKING

9.1 HIGHLIGHTS

- For the first time since statistics on smoking began to be collected in Canada, the prevalence of daily smoking is the same (26%) for men and women.

- A higher proportion of male daily smokers smoke over 25 cigarettes per day; 13% of male daily smokers smoke over 25 cigarettes per day, compared to 7% of female daily smokers.

- The prevalence of smoking is higher among young women (ages 15 to 19) than among young men. About 20% of young women smoke daily, compared to 12% of young men. Among young women, 26% are current smokers (daily plus occasional smokers), compared to 20% of young men.

- The prevalence of smoking declined in all age groups between 1985 and 1991. The trend to lower smoking rates is apparent in all regions.

- Only 37% of daily smokers aged 15 and over report being 18 or older when they started to smoke daily. A large proportion of smokers were thus less than the legal age for smoking when they began smoking daily. One-quarter of daily smokers (24%) aged 15 and older began to smoke daily at age 14 or younger.

- The probability that a person is a smoker increases directly with the number of other smokers in the household.

- Among middle-aged Canadians (ages 45 to 64), hypertension, diabetes, emphysema, arthritis and rheumatism, skin or other allergies, stomach ulcers, other digestive disorders, recurring migraine headaches an emotional disorders are most likely to be reported by regular smokers.

9.2 METHODS

The seven questions dealing with smoking on the 1991 GSS are contained in Section J of the questionnaire (see Appendix II). Two questions are used to classify type of smoker and one to determine daily amount; these questions are consistent with the earlier Labour Force Survey supplements on the smoking behaviour of Canadians[1] and the questions in the 1978-79 Canada Health Survey[2] and the 1985 GSS.[3] Other questions in this section describe the age at which the respondent began to smoke daily, the age at which the respondent last smoked daily, and the number of daily smokers in the respondent's household. Unlike the 1985 GSS, questions were strictly about cigarette smoking. Pipe and cigarillo use was not determined.

As explained in Chapter 1, proxy reporting was accepted in the 1991 GSS in situations where language difficulty or illness prevented the respondent from answering questions on his or her own behalf. Overall, this amounted to 4% of the total sample, while missing data on these items are 1% of the total or less.

The following classification is used to describe smoking behaviour:

1. *Regular (daily) smokers* are those who reported smoking at least one cigarette daily.

2. *Occasional smokers* are those who reported smoking cigarettes on an occasional basis (not every day).

3. *Current smokers* are regular and occasional smokers, combined.

4. *Former smokers* are those who reported that they do not now smoke cigarettes, but who used to smoke cigarettes daily.

5. *Never smoked daily* are those who have never smoked cigarettes daily (but might have formerly been occasional smokers).

These definitions are the same as in the 1985 GSS and, with the exception of the never smoked daily smokers, are the same as other historical and recent surveys on smoking. Most other Canadian surveys define "never smoked" as excluding all past smoking, whether occasional or daily. The definition adopted will affect estimates of both "never smoked" and former smokers, and will compromise comparisons with other surveys for these variables. Comparisons of current and daily smokers are unaffected.

9.3 RESULTS

9.3.1 Smoking Prevalence

In 1991, about 6.5 million Canadians aged 15 years and over smoked cigarettes (31%), and 5.4 million of these smoked daily (26% overall). Almost one-quarter of all adults (23%) were former smokers, and 45% were classified as persons who never smoked cigarettes daily (Table 9-1).

Age and sex

Daily smoking rates tend to vary by age in a curvilinear manner. Rates are low in the 15 to 19 year age group (16%), increase with advancing age to peak in the 25 to 44 year age group (31%), and then decline to the lowest level in the 75 years and over age group (9%) (Table 9-1).

Overall, 32% of men and 30% of women aged 15 and over can be classified as current smokers. The two sexes are equal in terms of the proportion who smoke daily (26%). The prevalence of smoking among women exceeds that among men in the 15 to 19 year age group for both current and daily smokers (26% vs. 20%, current smoking; 20% vs. 12%, daily smoking).

Provincial differences

The highest rates of daily smoking are found in Newfoundland and Nova Scotia (31%), while the lowest are in British Columbia (21%) (Table 9-2). For men, the highest rates are also in Newfoundland (36%) and Nova Scotia (35%), but the lowest rates are in Manitoba (20%). Among women, the highest rate is in Quebec (29%), while the lowest is in British Columbia (21%). In Newfoundland and Nova Scotia, there is a substantially higher proportion of men than women who smoke daily, whereas in Manitoba, there are more women than men who smoke daily. In the other provinces, the rates for men and women are within a few percentage points of each other.

Table 9-2 illustrates variations within the Atlantic and Prairie regions, showing that there is sometimes great variation for different provinces within the same region. For example, New Brunswick's rate of 25% is four percentage points below the Atlantic regional average, while Alberta is four percentage points higher than Manitoba. These within-region variations are especially pronounced for men.

Educational differences

Table 9-3 indicates that in the total population, smoking decreases as educational level increases. About 30% of persons with less than a high school certificate smoke daily, compared to 28% of persons with a secondary school diploma, 27% of those with some postsecondary school education, and 21% of persons with a postsecondary school degree or diploma.

The relationship of smoking behaviour with educational level in the total population is confounded — in fact, weakened — when analyzed by age groups. The gradient in smoking rates by educational level is strongly apparent in the 20 to 24 and 25 to 44 year age group (Figure 9-A). For example, in the 20 to 24

year age group, daily smoking rates range from 50% among persons with some secondary school education or less (e.g., high school dropouts) to 18% among persons with a postsecondary school degree or diploma. Among persons aged 25 to 44, the daily smoking rate of persons with some secondary school education or less is more than twice the rate of persons with a postsecondary school degree or diploma (48% vs. 23%).

After age 65, there is little difference in smoking rates by education. This association is attributable to the interplay between educational status, sex, smoking and age. Sex differences, particularly in the older age groups may reduce smoking prevalence because older women are less likely to have ever smoked. In addition, the prevalence of smoking is diminished in the older age groups because of two factors. Older persons are more likely to quit smoking because of smoking associated health problems and the mortality of smokers is higher than the mortality of non-smokers.

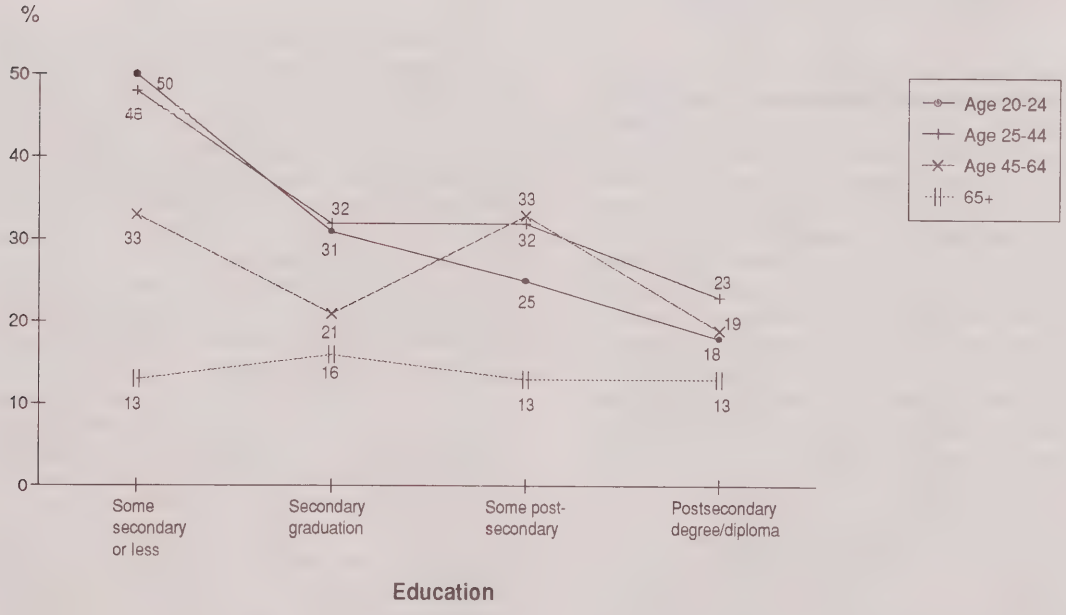
9.3.2 Amount Smoked Daily

The number of cigarettes smoked per day by regular smokers is dependent upon the age and sex of the smoker. In general, among smokers, men are almost twice as likely to smoke more than 25 cigarettes per day than women (13% vs. 7%). In contrast, the proportion of smokers who are light smokers (1 to 10 cigarettes per day) is higher among women than among men (25% vs. 19%). The tendency of a higher proportion of women smokers to be light smokers is consistent in all age groups except the youngest. Among smokers aged 15 to 19, 47% of young men smoke 1 to 10 cigarettes per day, compared to 33% of young women (Table 9-1).

9.3.3 Age Smoking Began

Only a little more than one-third of daily smokers aged 15 and older (37%) reports being 18 or more years

FIGURE 9-A
Daily smokers by education and age group, age 20+, Canada, 1991



General Social Survey, 1991

old when they started to smoke daily. A large proportion of smokers were thus less than the legal age for smoking when they began smoking daily. One-quarter of daily smokers aged 15 and older (25%) began to smoke daily at age 14 or younger (Table 9-4).

Overall, there is little difference between male and female smokers in their age of starting to smoke daily. Most teens who smoked daily at the time of the survey reported starting by age 14, regardless of their sex. In the next oldest cohort (ages 20 to 24), however, female smokers were more likely than male smokers to start smoking daily before the age of 18. This is a reversal of the pattern for smokers aged 45 and older, where the women were much more likely than the men to start smoking daily at age 18 or later.

9.3.4 Household Smoking Patterns

The prevalence of smoking is directly associated with the number of other smokers in the household, and this is true of each age group. In households in which there were no other smokers at the time of the survey, 18% of Canadians aged 15 and older were regular smokers. If there were one or two other adult smokers, about 45% smoked daily, and where there were three or more other adult smokers, 56% smoked daily (Table 9-5).

9.3.5 Smoking and Health Problems

In the population aged 15 and over, daily smokers are most likely to report emphysema and stomach ulcers, while former smokers are most likely to report hypertension, heart trouble , diabetes, arthritis and rheumatism, digestive problems other than ulcers and high cholesterol (Table 9-6). Skin or other allergies is the only health problem more commonly reported by persons who never smoked cigarettes daily compared to current or former smokers. Among middle aged Canadians (ages 45-64), hypertension, diabetes, emphysema, arthritis and rheumatism, skin or other allergies, stomach ulcers, other digestive disorders, recurring migraine headaches and emotional disorders are more likely to be reported by regular smokers.

9.4 DISCUSSION

9.4.1 Trends in Smoking Prevalence

Figure 9-B compares smoking rates by age and sex in the 1985 GSS and the 1991 GSS. Among both men and women, smoking rates have declined over all age groups. In 1966, 54% of men smoked regularly,[4] compared with 26% in 1991. In contrast, the rates for women were 29% in 1966 and 26% in 1991 (Figure 9-C).

Thus, the decline has been much more pronounced among men than among women. As a consequence, rates of smoking by men and women have converged, and there is an indication that, at least in the younger age groups, the prevalence of female smokers may soon exceed that of male smokers.

In all regions, there has been a decline in smoking rates. Figure 9-C shows age-adjusted smoking rates by region and sex in 1966[4] and 1991. The decline in smoking rates among men is most apparent in Quebec and in British Columbia. In Quebec, 64% of men smoked in 1966, compared to 28% in 1991. This is the largest decline of any region. In British Columbia, smoking rates among men declined from 49% in 1966 to 22% in 1991.

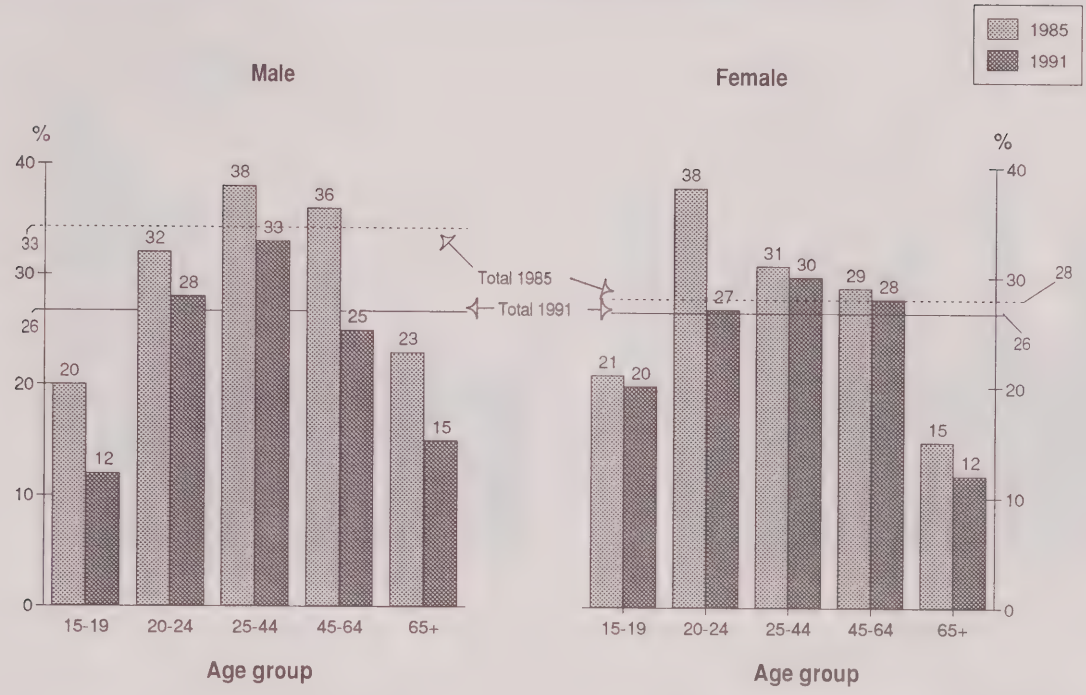
Among women, smoking rates have declined in all regions, but the decreases are not as pronounced as among men. British Columbia shows the largest decrease in smoking rates for women between 1966 and 1991. In 1966, 37% of women were regular cigarette smokers, compared to 21% in 1991. In 1966, British Columbia women had the highest smoking rate; by 1991, their smoking rate was the lowest in Canada.

At all educational levels, the prevalence of smoking either declined or remained stable between 1985 and 1991 (Figure 9-D).

The decline in smoking rates between 1985 and 1991 reported in this chapter is consistent with evidence from sales statistics and from other recent surveys.[5] During the period 1980-1990, there was a 35% decline in tobacco consumption as measured by the estimated number of cigarettes smoked per day by persons aged 15 and over.[6] The sharp drop in cigarette consumption has been attributed to Canadian public health efforts, particularly in the area of taxation policy.[7]

There was an increase in smoking among women during and after the Second World War, and, since the latency period for the development of some smoking-related diseases may be as long as 15 to 20 years, a dramatic increase in lung cancer rates is now starting to be seen among women. Between 1981 and 1988, the average annual increase in the incidence of lung cancer among women was 5.0% per year, compared to 0.6% per year among men. Mortality rates for lung cancer among women have increased by 4.8%

FIGURE 9-B
Daily smokers by age group and sex, age 15+, Canada, 1985 and 1991



General Social Survey, 1985 and 1991

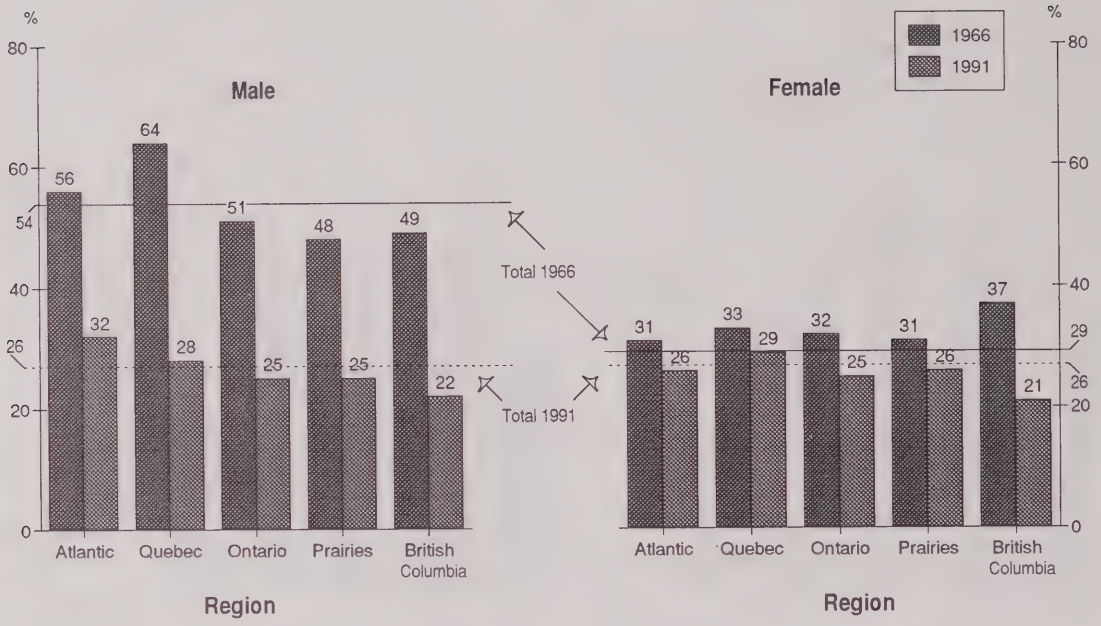
per year, compared to 0.7% for men.[8] Among women, lung cancer ranked as the eighth most common type of cancer in 1971. About 1 in 100 women at that time could expect to develop lung cancer in their lifetime. However, by 1988, the ranking of lung cancer had increased to third place where about 1 in 25 women could expect to develop lung cancer. In summary, women in 1988 were four times more likely to develop lung cancer than women in 1971. This major change is almost entirely due to changes in smoking behaviour among women after the Second World War. A recent report suggests that lung cancer will exceed breast cancer as a cause of cancer death among women in the provinces of Prince Edward Island, Nova Scotia, New Brunswick, Manitoba and British Columbia by 1993.

9.4.2 Methodological Issues

Canada has a time series on smoking behaviour that dates back to 1966. Consequently, it is possible to assess long-term trends in smoking behaviour. However, it is necessary to exercise caution when comparing rates over time, because surveys differ in terms of their use of proxy response. Proxy reporting may result in under estimation of smoking prevalence, particularly among younger age groups.[9] The validity of telephone surveys in assessing cigarette smoking in young adults has been questioned. Luepker *et al.* followed up on telephone respondents with a home interview and found that the rates of smoking are higher in home interviews. They concluded that telephone survey methods underestimat smoking rates and overestimate non-smoking rates.[10]

Monitoring trends in key health indicators is one of the objectives of the General Social Survey. However, the survey does not survey residents of the Northwest Territories and the Yukon. In 1985, within the Northwest Territories, among youth aged 15 to 19, 71% of Inuit, 63% of Native Indian/Metis, and 43% of non-native youth were current smokers. Among Inuit girls aged 15 to 19, 77% were current smokers.[11] The lack of current information about the prevalence of smoking in the aboriginal population will be remedied in the 1991 Aboriginal People's Survey.

FIGURE 9-C
Age-adjusted daily smoking rates, by region and sex, age 15+, Canada, 1966 and 1991



Labour Force Survey, 1966
General Social Survey, 1991

9.4.3 Substantive Issues

The relationship between individual and household smoking is consistent with data from the 1985 GSS[3] and the 1990 Health Promotion Survey.[5] Within households, the probability that a young person smokes, the type of cigarette he or she smokes, and the frequency of smoking are all closely associated with the smoking behaviour of older adults in the household.[12] Moreover, the importance of the role model of older adults with respect to the smoking behaviour of teenagers and young adults appears to be consistent across all socio-economic levels. The present analysis reinforces the fact that household smoking patterns not only contribute to the likelihood of smoking by household members, but also increase the overall exposure of family members to the health hazards of tobacco smoke and may modify the impact of preventive and smoking cessation programs.

While the data from the 1991 GSS are consistent with the results of many previous surveys as to temporal trends and demographic patterns, the 1991 GSS is unusual in reporting such a high proportion of occasional smokers. At 5% overall and 12% of those aged 20 to 24 (Table 9-1), these data are far higher than data from other recent surveys. The 1990 Health Promotion Survey[5] was typical of recent surveys in reporting that only 1% of adults were occasional smokers. There is no apparent reason in the GSS methods to explain this anomaly, but, if it is the start of a new trend, it will be an important one that deserves further monitoring. In Ontario, for example, the proportion of 20 to 24 year old men who smoke occasionally is only one percentage point different than the proportion who smoke daily (22% versus 23%, data not shown). The fact that Ontario has one of the most comprehensive anti-smoking environments in the

FIGURE 9-D
Age-adjusted daily smoking rates, by education and sex, age 15+, Canada, 1985 and 1991

General Social Survey, 1985 and 1991

country may be significant, but it is too early to draw conclusions about this finding, except to note its potential importance.

It is also possible that the increase in the percentage of the population who report they are occasional smokers may be a response bias. Over the last three decades, social norms regarding smoking have changed. In an interview, the admission of being an 'occasional smoker' may be perceived by respondents as a more socially acceptable response. This potential bias could decrease the prevalence of regular smoking and increase the prevalence of occasional smoking.

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TABLE 9-1
Type of smoker and for regular smokers, the number of cigarettes smoked daily by sex and age group, age 15+, Canada, 1991

Sex and age group	Total population 15+		Type of smoker: Current smoker		Regular smoker		Regular smoker Cigarettes smoked daily: 1-10		11-25		26+		Not stated		Occasional smoker		Never daily smoker		Former smoker		Not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)																					
Both sexes																						
Population 15+	20,981	100	6,469	31	5,434	26	1,216	6	3,657	17	538	3	--	--	1,035	5	9,422	45	4,891	23	199	1
15-24 years	3,793	100	1,192	31	840	22	260	7	542	14	37	1	--	--	352	9	2,273	60	318	8	--	--
15-19 years	1,825	100	412	23	296	16	114	6	173	9	--	--	--	--	116	6	1,306	72	108	6	--	--
20-24 years	1,967	100	781	40	544	28	146	7	368	19	--	--	--	--	237	12	967	49	210	11	--	--
25-44 years	9,005	100	3,225	36	2,823	31	589	7	1,975	22	256	3	--	--	401	4	3,816	42	1,911	21	54	1
45-64 years	5,275	100	1,587	30	1,385	26	243	5	931	18	204	4	--	--	202	4	2,054	39	1,563	30	71	1
65+ years	2,908	100	465	16	386	13	125	4	209	7	40	1	--	--	79	3	1,279	44	1,099	38	65	2
65-74 years	1,824	100	345	19	287	16	89	5	158	9	33	2	--	--	58	3	728	40	718	39	32	2
75+ years	1,084	100	120	11	99	9	36	3	51	5	--	--	--	--	--	--	551	51	381	35	32	3
Male																						
Population 15+	10,266	100	3,282	32	2,692	26	522	5	1,817	18	344	3	--	--	590	6	4,063	40	2,829	28	91	1
15-24 years	1,935	100	623	32	396	20	111	6	266	14	--	--	--	--	227	12	1,201	62	110	6	--	--
15-19 years	936	100	185	20	116	12	55	6	56	6	--	--	--	--	69	7	706	75	46	5	--	--
20-24 years	1,000	100	438	44	280	28	57	6	209	21	--	--	--	--	158	16	495	50	65	6	--	--
25-44 years	4,476	100	1,672	37	1,466	33	268	6	1,027	23	167	4	--	--	206	5	1,806	40	976	22	--	--
45-64 years	2,611	100	767	29	642	25	94	4	420	16	127	5	--	--	125	5	770	29	1,028	39	46	2
65+ years	1,245	100	220	18	188	15	48	4	104	8	32	3	--	--	32	3	287	23	716	58	--	--
65-74 years	796	100	170	21	146	18	31	4	85	11	28	4	--	--	--	--	164	21	457	57	--	--
75+ years	448	100	50	11	42	9	--	--	--	--	--	--	--	--	--	--	123	28	259	58	--	--
Female																						
Population 15+	10,715	100	3,187	30	2,742	26	694	6	1,840	17	194	2	--	--	445	4	5,359	50	2,061	19	108	1
15-24 years	1,857	100	570	31	444	24	148	8	276	15	--	--	--	--	126	7	1,073	58	207	11	--	--
15-19 years	890	100	227	26	181	20	59	7	117	13	--	--	--	--	47	5	600	67	62	7	--	--
20-24 years	968	100	342	35	263	27	89	9	159	16	--	--	--	--	79	8	472	49	145	15	--	--
25-44 years	4,530	100	1,552	34	1,357	30	321	7	948	21	89	2	--	--	195	4	2,010	44	935	21	32	1
45-64 years	2,664	100	820	31	743	28	148	6	511	19	77	3	--	--	77	3	1,284	48	535	20	--	--
65+ years	1,664	100	245	15	198	12	77	5	105	6	--	--	--	--	47	3	992	60	383	23	43	3
65-74 years	1,028	100	175	17	141	14	59	6	74	7	--	--	--	--	34	3	565	55	261	25	27	3
75+ years	636	100	70	11	57	9	--	--	31	5	--	--	--	--	--	--	428	67	123	19	--	--

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TABLE 9-2
Type of smoker by sex and province, age 15+, Canada, 1991

Sex and province	Total population 15+		Type of smoker: Current smoker		Regular smoker		Occasional smoker		Never daily smoker		Former smoker		Not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)													
Both sexes														
Canada	20,981	100	6,469	31	5,434	26	1,035	5	9,422	45	4,891	23	199	1
Atlantic	1,806	100	582	32	525	29	57	3	766	42	454	25	--	--
Newfoundland	438	100	152	35	136	31	16	4	190	43	95	22	--	--
P.E.I.	98	100	29	29	26	26	--	--	43	44	26	27	--	--
Nova Scotia	704	100	249	35	220	31	29	4	278	40	174	25	--	--
New Brunswick	566	100	152	27	143	25	--	--	255	45	158	28	--	--
Quebec	5,384	100	1,780	33	1,536	29	244	5	2,188	41	1,399	26	--	--
Ontario	7,778	100	2,272	29	1,939	25	334	4	3,823	49	1,550	20	132	2
Prairies	3,482	100	1,103	32	893	26	210	6	1,582	45	760	22	37	1
Manitoba	839	100	235	28	197	23	38	5	386	46	207	25	--	--
Saskatchewan	742	100	217	29	180	24	37	5	356	48	163	22	--	--
Alberta	1,901	100	651	34	516	27	135	7	839	44	390	21	22	1
British Columbia	2,532	100	732	29	541	21	190	8	1,063	42	728	29	--	--
Male														
Canada	10,266	100	3,282	32	2,692	26	590	6	4,063	40	2,829	28	91	1
Atlantic	885	100	324	37	287	32	37	4	304	34	256	29	--	--
Newfoundland	217	100	88	40	78	36	--	--	71	33	58	27	--	--
P.E.I.	48	100	17	36	16	33	--	--	16	33	14	30	--	--
Nova Scotia	343	100	142	41	120	35	--	--	107	31	94	27	--	--
New Brunswick	277	100	78	28	73	26	--	--	110	40	90	32	--	--
Quebec	2,617	100	855	33	729	28	126	5	957	37	796	30	--	--
Ontario	3,796	100	1,172	31	961	25	211	6	1,637	43	923	24	64	2
Prairies	1,725	100	547	32	438	25	109	6	718	42	442	26	18	1
Manitoba	411	100	102	25	81	20	21	5	178	43	125	30	--	--
Saskatchewan	367	100	108	29	93	25	--	--	159	43	98	27	--	--
Alberta	948	100	337	36	264	28	73	8	381	40	219	23	--	--
British Columbia	1,243	100	383	31	277	22	106	9	447	36	413	33	--	--
Female														
Canada	10,715	100	3,187	30	2,742	26	445	4	5,359	50	2,061	19	108	1
Atlantic	921	100	258	28	238	26	20	2	462	50	198	22	--	--
Newfoundland	221	100	64	29	58	26	--	--	119	54	37	17	--	--
P.E.I.	50	100	12	23	10	19	--	--	27	53	12	24	--	--
Nova Scotia	361	100	107	30	100	28	--	--	171	47	81	22	--	--
New Brunswick	289	100	75	26	70	24	--	--	146	50	68	24	--	--
Quebec	2,767	100	925	33	807	29	118	4	1,230	44	603	22	--	--
Ontario	3,982	100	1,100	28	978	25	122	3	2,187	55	627	16	69	2
Prairies	1,756	100	556	32	455	26	101	6	863	49	318	18	19	1
Manitoba	428	100	133	31	116	27	17	4	209	49	83	19	--	--
Saskatchewan	375	100	109	29	87	23	22	6	197	53	65	17	--	--
Alberta	953	100	314	33	252	26	61	6	457	48	170	18	--	--
British Columbia	1,288	100	348	27	265	21	84	6	616	48	315	24	--	--

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TABLE 9-3
Type of smoker by age group and education, age 15+, Canada, 1991

Age group and education	Total population 15+		Type of smoker: Current smoker		Regular smoker		Occasional smoker		Never daily smoker		Former smoker		Not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)													
Population 15+														
All education levels	20,981	100	6,469	31	5,434	26	1,035	5	9,422	45	4,891	23	199	1
Some secondary or less	7,190	100	2,452	34	2,139	30	313	4	3,060	43	1,673	23	--	--
Secondary graduation	3,399	100	1,094	32	936	28	159	5	1,547	46	751	22	--	--
Some postsecondary	3,401	100	1,156	34	934	27	223	7	1,508	44	733	22	--	--
Postsec. degree or diploma	6,601	100	1,715	26	1,384	21	331	5	3,186	48	1,698	26	--	--
Not stated	390	100	51	13	42	11	--	--	121	31	35	9	183	47
15-24 years														
All education levels	3,793	100	1,192	31	840	22	352	9	2,273	60	318	8	--	--
Some secondary or less	1,472	100	433	29	307	21	125	9	940	64	100	7	--	--
Secondary graduation	629	100	221	35	174	28	48	8	344	55	60	10	--	--
Some postsecondary	1,023	100	353	34	233	23	119	12	579	57	91	9	--	--
Postsec. degree or diploma	650	100	181	28	122	19	60	9	402	62	66	10	--	--
Not stated	--	--	--	--	--	--	--	--	--	--	--	--	--	--
15-19 years														
All education levels	1,825	100	412	23	296	16	116	6	1,306	72	108	6	--	--
Some secondary or less	1,199	100	250	21	170	14	80	7	871	73	78	7	--	--
Secondary graduation	252	100	70	28	57	23	--	--	169	67	--	--	--	--
Some postsecondary	312	100	78	25	--	--	--	--	220	71	--	--	--	--
Postsec. degree or diploma	52	100	--	--	--	--	--	--	--	--	--	--	--	--
Not stated	--	--	--	--	--	--	--	--	--	--	--	--	--	--
20-24 years														
All education levels	1,967	100	781	40	544	28	237	12	967	49	210	11	--	--
Some secondary or less	274	100	183	67	138	50	46	17	69	25	--	--	--	--
Secondary graduation	377	100	152	40	117	31	35	9	174	46	48	13	--	--
Some postsecondary	711	100	275	39	178	25	96	14	358	50	77	11	--	--
Postsec. degree or diploma	598	100	169	28	109	18	60	10	365	61	64	11	--	--
Not stated	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25-44 years														
All education levels	9,005	100	3,225	36	2,823	31	401	4	3,816	42	1,911	21	54	1
Some secondary or less	1,841	100	958	52	892	48	66	4	542	29	338	18	--	--
Secondary graduation	1,697	100	611	36	551	32	60	4	746	44	341	20	--	--
Some postsecondary	1,509	100	558	37	476	32	82	5	601	40	348	23	--	--
Postsec. degree or diploma	3,835	100	1,072	28	887	23	186	5	1,889	49	873	23	--	--
Not stated	124	100	--	--	--	--	--	--	38	31	--	--	50	40
45-64 years														
All education levels	5,275	100	1,587	30	1,385	26	202	4	2,054	39	1,563	30	71	1
Some secondary or less	2,210	100	784	35	718	33	65	3	804	36	622	28	--	--
Secondary graduation	767	100	203	26	162	21	--	--	327	43	234	31	--	--
Some postsecondary	566	100	203	36	185	33	--	--	195	34	167	30	--	--
Postsec. degree or diploma	1,614	100	388	24	311	19	77	5	694	43	532	33	--	--
Not stated	117	100	--	--	--	--	--	--	--	--	--	--	68	58
65+ years														
All education levels	2,908	100	465	16	386	13	79	3	1,279	44	1,099	38	65	2
Some secondary or less	1,667	100	278	17	222	13	56	3	774	46	613	37	--	--
Secondary graduation	305	100	59	19	49	16	--	--	130	43	116	38	--	--
Some postsecondary	303	100	43	14	39	13	--	--	133	44	127	42	--	--
Postsec. degree or diploma	502	100	73	14	64	13	--	--	202	40	227	45	--	--
Not stated	130	100	--	--	--	--	--	--	41	31	--	--	59	46

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TABLE 9-4
Age started smoking daily by sex and age group, population aged 15+ who smoke cigarettes daily, Canada, 1991

Sex and	Population 15+		Age started smoking daily															
			< 13 years		13 years		14 years		15 years		16 years		17 years		18 + years		Not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)																	
Both sexes																		
Population 15+	5,434	100	456	8	333	6	554	10	686	13	884	16	473	9	2,006	37	42	1
15-24 years	840	100	108	13	105	13	175	21	137	16	114	14	88	10	114	14	--	--
15-19 years	296	100	46	15	56	19	95	32	52	18	--	--	--	--	--	--	--	--
20-24 years	544	100	62	11	50	9	80	15	85	16	92	17	63	12	113	21	--	--
25-44 years	2,823	100	209	7	186	7	260	9	368	13	509	18	267	9	1,012	36	--	--
45-64 years	1,385	100	106	8	32	2	95	7	150	11	217	16	95	7	679	49	--	--
65+ years	386	100	33	9	--	--	--	--	31	8	45	12	--	--	201	52	--	--
65-74 years	287	100	--	--	--	--	--	--	26	9	34	12	--	--	152	53	--	--
75+ years	99	100	--	--	--	--	--	--	--	--	--	--	--	--	48	49	--	--
Male																		
Population 15+	2,692	100	273	10	151	6	291	11	354	13	458	17	222	8	919	34	--	--
15-24 years	396	100	47	12	42	10	87	22	56	14	57	14	35	9	73	18	--	--
15-19 years	116	100	--	--	--	--	45	39	--	--	--	--	--	--	--	--	--	--
20-24 years	280	100	--	--	--	--	43	15	34	12	47	17	32	11	73	26	--	--
25-44 years	1,466	100	119	8	87	6	126	9	175	12	280	19	133	9	538	37	--	--
45-64 years	642	100	83	13	--	--	61	9	101	16	91	14	42	6	244	38	--	--
65+ years	188	100	--	--	--	--	--	--	--	--	30	16	--	--	64	34	--	--
65-74 years	146	100	--	--	--	--	--	--	--	--	--	--	--	--	55	38	--	--
75+ years	42	100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Female																		
Population 15+	2,742	100	183	7	182	7	263	10	332	12	427	16	251	9	1,087	40	--	--
15-24 years	444	100	61	14	64	14	88	20	81	18	57	13	53	12	41	9	--	--
15-19 years	181	100	--	--	--	--	50	28	--	--	--	--	--	--	--	--	--	--
20-24 years	263	100	32	12	--	--	38	14	50	19	45	17	31	12	40	15	--	--
25-44 years	1,357	100	90	7	98	7	134	10	193	14	229	17	134	10	475	35	--	--
45-64 years	743	100	--	--	--	--	35	5	49	7	126	17	54	7	435	59	--	--
65+ years	198	100	--	--	--	--	--	--	--	--	--	--	--	--	137	69	--	--
65-74 years	141	100	--	--	--	--	--	--	--	--	--	--	--	--	97	69	--	--
75+ years	57	100	--	--	--	--	--	--	--	--	--	--	--	--	40	70	--	--

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TABLE 9-5
Type of smoker by age group and number of smokers in household (interviewed person excluded), age 15+, Canada, 1991

Age group and number of smokers in household excluding interviewed person	Total population 15+		Type of smoker											
			Current smoker		Regular smoker		Occasional smoker		Never daily smoker		Former smoker		Not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)													
Population 15+														
Total	20,981	100	6,469	31	5,434	26	1,035	5	9,422	45	4,891	23	199	1
No smokers	14,581	100	3,306	23	2,623	18	683	5	7,464	51	3,805	26	--	--
One smoker	5,001	100	2,532	51	2,278	46	253	5	1,556	31	908	18	--	--
Two smokers	886	100	439	50	382	43	57	6	309	35	137	16	--	--
Three or more smokers	261	100	178	68	147	56	--	--	64	24	--	--	--	--
Not stated	252	100	--	--	--	--	--	--	29	12	--	--	188	75
15-24 years														
Total	3,793	100	1,192	31	840	22	352	9	2,273	60	318	8	--	--
No smokers	2,263	100	499	22	284	13	215	10	1,600	71	164	7	--	--
One smoker	993	100	451	45	366	37	85	9	427	43	113	11	--	--
Two smokers	407	100	168	41	134	33	--	--	206	51	--	--	--	--
Three or more smokers	110	100	75	68	56	51	--	--	--	--	--	--	--	--
Not stated	--	--	--	--	--	--	--	--	--	--	--	--	--	--
15-19 years														
Total	1,825	100	412	23	296	16	116	6	1,306	72	108	6	--	--
No smokers	1,107	100	150	14	91	8	58	5	915	83	42	4	--	--
One smoker	395	100	130	33	104	26	--	--	220	56	45	12	--	--
Two smokers	256	100	96	38	75	29	--	--	146	57	--	--	--	--
Three or more smokers	57	100	--	--	--	--	--	--	--	--	--	--	--	--
Not stated	--	--	--	--	--	--	--	--	--	--	--	--	--	--
20-24 years														
Total	1,967	100	781	40	544	28	237	12	967	49	210	11	--	--
No smokers	1,156	100	349	30	193	17	157	14	685	59	122	11	--	--
One smoker	599	100	321	54	263	44	59	10	207	35	67	11	--	--
Two smokers	151	100	71	47	59	39	--	--	61	40	--	--	--	--
Three or more smokers	53	100	--	--	--	--	--	--	--	--	--	--	--	--
Not stated	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25-44 years														
Total	9,005	100	3,225	36	2,823	31	401	4	3,816	42	1,911	21	54	1
No smokers	6,232	100	1,657	27	1,384	22	273	4	3,119	50	1,456	23	--	--
One smoker	2,384	100	1,330	56	1,232	52	97	4	635	27	419	18	--	--
Two smokers	218	100	144	66	124	57	--	--	49	22	--	--	--	--
Three or more smokers	95	100	83	87	79	83	--	--	--	--	--	--	--	--
Not stated	76	100	--	--	--	--	--	--	--	--	--	--	54	71
45-64 years														
Total	5,275	100	1,587	30	1,385	26	202	4	2,054	39	1,563	30	71	1
No smokers	3,664	100	815	22	690	19	125	3	1,634	45	1,214	33	--	--
One smoker	1,254	100	633	50	569	45	64	5	359	29	260	21	--	--
Two smokers	223	100	117	53	115	51	--	--	--	--	71	32	--	--
Three or more smokers	53	100	--	--	--	--	--	--	--	--	--	--	--	--
Not stated	80	100	--	--	--	--	--	--	--	--	--	--	67	84
65+ years														
Total	2,908	100	465	16	386	13	79	3	1,279	44	1,099	38	65	2
No smokers	2,422	100	335	14	265	11	70	3	1,111	46	972	40	--	--
One smoker	370	100	118	32	111	30	--	--	136	37	116	31	--	--
Two smokers	37	100	--	--	--	--	--	--	--	--	--	--	--	--
Three or more smokers	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Not stated	76	100	--	--	--	--	--	--	--	--	--	--	60	79

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TABLE 9-6
Prevalence of selected health problems by age group and type of smoker, age 15+, Canada, 1991

Age group and type of smoker	Total population 15+		Any health problem		Hyper-tension		Heart trouble		Diabetes		Arthri-tis / rheuma-tism		Asthma		Emphyse-ma, etc.		Hay fever		Skin or other allergies		Stomach ulcer		Other digestive problems		Recurring migraines		High blood cholesterol		Any emotional disorders	
	Health problem[1]																													
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)																													
Population 15+																														
Total smokers	20,981	100	13,168	63	3,311	16	1,437	7	740	4	4,335	21	1,238	6	1,671	8	2,528	12	4,340	21	969	5	1,634	8	1,950	9	1,759	8	1,114	5
Current	6,469	100	3,995	62	894	14	361	6	206	3	1,224	19	355	5	687	11	701	11	1,311	20	404	6	467	7	724	11	496	8	388	6
Regular	5,434	100	3,384	62	775	14	309	6	182	3	1,067	20	315	6	626	12	558	10	1,101	20	355	7	404	7	614	11	426	8	345	6
Occasional	1,035	100	611	59	118	11	51	5	--	--	157	15	40	4	61	6	143	14	210	20	49	5	63	6	111	11	70	7	43	4
Never daily	9,422	100	5,692	60	1,417	15	532	6	272	3	1,677	18	584	6	530	6	1,226	13	2,068	22	293	3	704	7	815	9	703	7	443	5
Former	4,891	100	3,371	69	952	19	529	11	256	5	1,368	28	288	6	436	9	600	12	952	19	266	5	454	9	403	8	545	11	275	6
Not stated	199	100	110	55	49	24	--	--	--	--	67	34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
15-44 years																														
Total smokers	12,798	100	6,810	53	979	8	320	2	159	1	1,096	9	784	6	705	6	1,771	14	2,865	22	522	4	690	5	1,246	10	537	4	464	4
Current	4,417	100	2,416	55	355	8	146	3	58	1	463	10	244	6	377	9	546	12	906	21	245	6	230	5	530	12	184	4	200	5
Regular	3,663	100	2,020	55	319	9	130	4	46	1	410	11	214	6	348	9	428	12	738	20	214	6	199	5	443	12	172	5	180	5
Occasional	754	100	396	53	35	5	--	--	--	--	53	7	--	--	29	4	118	16	168	22	--	--	31	4	87	12	--	--	--	--
Never daily	6,089	100	3,108	51	392	6	109	2	65	1	363	6	425	7	238	4	863	14	1,449	24	161	3	296	5	520	9	216	4	167	3
Former	2,228	100	1,270	57	222	10	64	3	35	2	264	12	115	5	89	4	363	16	510	23	115	5	163	7	195	9	136	6	98	4
Not stated	64	100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
45-64 years																														
Total smokers	5,275	100	3,866	73	1,271	24	411	8	289	5	1,685	32	252	5	440	8	523	10	947	18	255	5	538	10	524	10	834	16	388	7
Current	1,587	100	1,207	76	406	26	136	9	116	7	532	34	82	5	202	13	120	8	330	21	115	7	179	11	171	11	261	16	140	9
Regular	1,385	100	1,063	77	359	26	125	9	111	8	467	34	75	5	186	13	100	7	300	22	104	7	156	11	151	11	216	16	125	9
Occasional	202	100	144	71	47	23	--	--	--	--	65	32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	44	22	--	--
Never daily	2,054	100	1,486	72	507	25	113	5	83	4	632	31	85	4	114	6	263	13	382	19	63	3	213	10	204	10	315	15	152	7
Former	1,563	100	1,139	73	341	22	162	10	90	6	500	32	78	5	119	8	140	9	232	15	71	5	142	9	144	9	251	16	94	6
Not stated	71	100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
65+ years																														
Total smokers	2,908	100	2,491	86	1,061	36	705	24	293	10	1,554	53	201	7	527	18	234	8	528	18	192	7	406	14	180	6	387	13	262	9
Current	465	100	372	80	133	28	78	17	33	7	229	49	30	6	108	23	35	8	75	16	44	9	58	12	--	--	51	11	48	10
Regular	386	100	301	78	97	25	55	14	--	--	190	49	26	7	92	24	30	8	63	16	38	10	49	13	--	--	38	10	40	10
Occasional	79	100	71	89	36	45	--	--	--	--	39	50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Never daily	1,279	100	1,097	86	518	40	310	24	123	10	681	53	73	6	178	14	100	8	238	19	69	5	195	15	90	7	172	13	124	10
Former	1,099	100	962	87	388	35	303	28	131	12	604	55	95	9	228	21	97	9	210	19	80	7	148	13	64	6	158	14	84	8
Not stated	65	100	60	93	--	--	--	--	--	--	40	62	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

General Social Survey, 1991

(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of affirmative responses shown.

CHAPTER 10

LEISURE-TIME PHYSICAL ACTIVITY

10.1 HIGHLIGHTS

- Approximately 6.7 million Canadian adults are physically active in their leisure time. This represents about 32% of the adult population.
- Levels of leisure-time physical activity are associated with gender, and province. In general, men tend to be more physically active than women, and residents of Ontario and Quebec are less active than Canadians in other regions of the country.
- Approximately one in five Canadian adults (22%) leads a sedentary lifestyle. Women are more likely to be sedentary than men (25% vs.19%).
- Level of physical activity is associated with level of education. Persons with higher educational status are more likely to be physically active during their leisure hours than persons with lower levels of education.
- Regular smokers and former smokers are less likely to be physically active during leisure time than persons who have never smoked daily.
- Compared to adults who are physically active, sedentary adults are more likely to report health conditions such as high blood pressure, heart trouble, emphysema, arthritis and rheumatism, and high blood cholesterol.

10.2 METHODS

Information relating to physical activity was obtained from questions in Section G of the 1991 GSS questionnaire (see Appendix II). Some of these questions were modified from the 1985 GSS questionnaire.[1] Questions G5-G6 were incorporated into the 1991 survey to provide better comparability between GSS data and earlier national fitness surveys[2,3] and to obtain more information on moderate and light physical activity.

Level of leisure-time physical activity, as reported in this chapter, is based on an index of energy expenditure values. These were developed from a series of questions about the usual total time per week spent on activities described to the respondent as light, moderate, or vigorous. Energy expenditure values were assigned according to the demands of the type of activity: 5 kilocalories/minute (kcal/min) for light physical activity, 7.5 kcal/min for moderate activity, and 10 kcal/min for vigorous activity. A summary measure of energy expenditure in kilocalories/week (kcal/wk) was then calculated for all types of leisure activities. On the basis of this continuous variable, respondents were classified as sedentary (<500 kcal/wk), moderately active (500 to <2000 kcal/wk), or active (a minimum of 2000 kcal/wk). These values for classifying level of energy expenditure approximate those used by Paffenbarger *et al.*[4] Similar classifications were used in the 1985 GSS,[1] although the underlying questions were somewhat different, as discussed further on.

The level of non-response for the main variables in this chapter is 4%, as reported in the tables. However, this level increases to 9% for those aged 75 and older.

10.3 RESULTS

10.3.1 Age and Sex

About one out of three Canadian adults (32%) aged 15 and over (6.7 million persons) report being physically active in their leisure time (Table 10-1). This proportion declines with increasing age (Figure 10-A), from 58% of the youngest age group to only 5% of those aged 75 and over (Table 10-1).

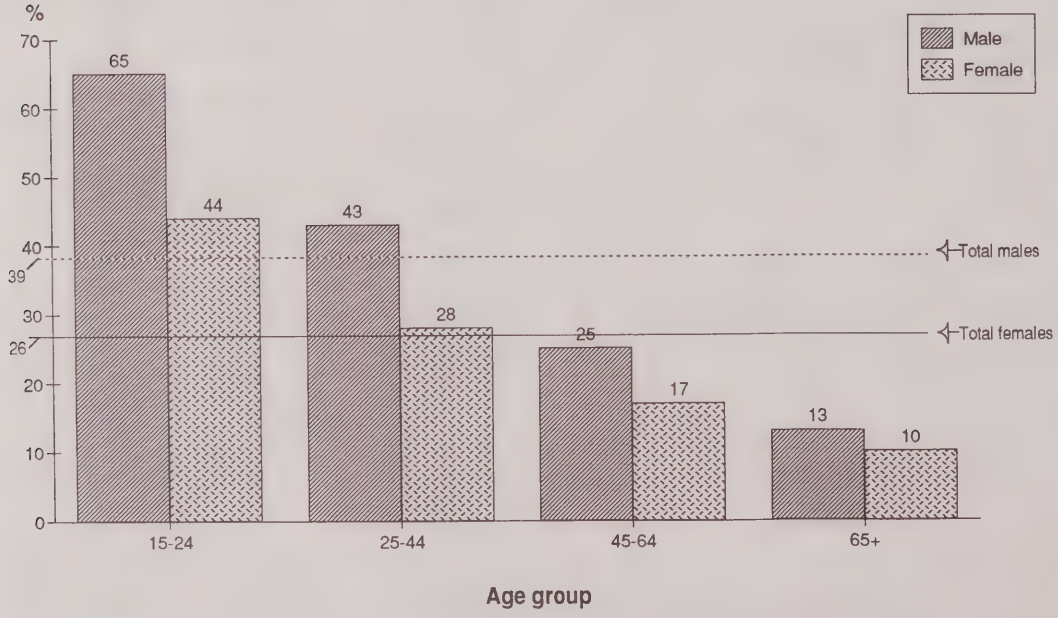
Men are more physically active than women at every age, but sex differences diminish with age. The largest sex difference occurs in the 15 to 24 age group (65% of men vs. 44% of women); this compares to a difference of three percentage points (13% of men vs. 10% of women) in the 65 and over age group.

In the total adult population, 22% of Canadians are sedentary. The prevalence of being sedentary is a mirror image of the prevalence of being physically active (Figure10-B): it increases with age, and women are more likely to be sedentary than men at all ages. Overall, 19% of men are sedentary, compared to 25% of women. The greatest sex difference occurs among persons aged 75 and over. In that age group, 37% of men are sedentary, compared to 54% of women.

10.3.2 Provincial Differences

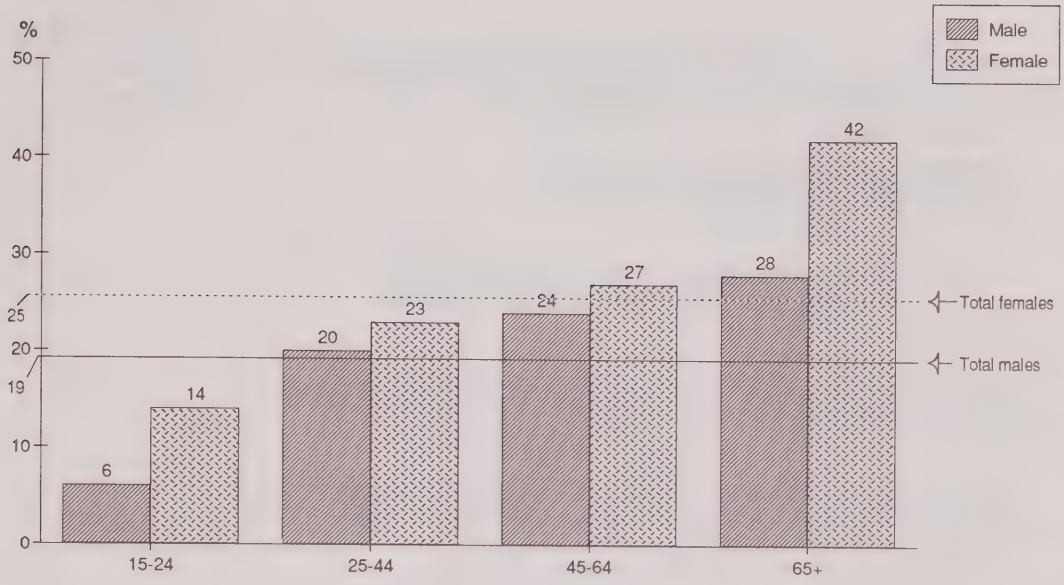
There are substantial inter-provincial differences in physical activity levels (Figure 10-C and Table 10-2), with the prevalence of active adults ranging from 24% in Quebec to 45% in Prince Edward Island. Adults in Quebec and Ontario tend to have lower physical activity levels than those in the other provinces. In contrast, persons in the Atlantic and Prairie provinces and in British Columbia have higher physical activity levels than the national average.

FIGURE 10-A
"Active" leisure-time physical activity by age group and sex, age 15+, Canada, 1991



General Social Survey, 1991

FIGURE 10-B
"Sedentary" leisure-time physical activity by age group and sex, age 15+, Canada, 1991



General Social Survey, 1991

Among men, the proportion who report that they are physically active is higher than the national average of 39% in Atlantic Canada (except New Brunswick), the Prairie provinces, and British Columbia.

About 26% of women are physically active. In Quebec and Ontario, women are less likely to be active than in the rest of the country.

The proportion of the population that is sedentary also varies by province, from 29% of Quebec residents to 15% of residents in British Columbia and Nova Scotia. In all provinces except British Columbia, the proportion of women who are sedentary exceeds that of men (Table 10-2).

10.3.3 Education

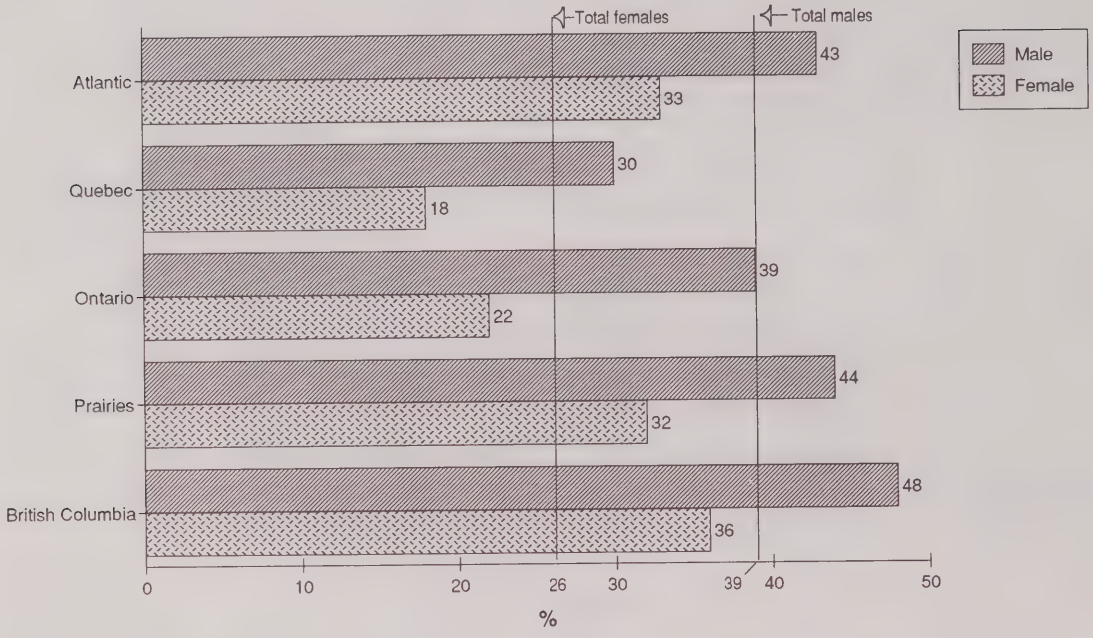
The proportion of the population that is physically active increases with education (Table 10-3). About 38% of adults who have a postsecondary degree or diploma are physically active, compared to 24% of persons who have some secondary education or less. The transition from some secondary education or less (24%) to secondary level graduation (33%) appears to be an important factor in determining overall level of physical activity. In contrast to this nine percentage point difference in the proportion of the population that is physically active, there are only small differences between higher levels of education.

10.3.4 Physical Activity and Smoking Behaviour

Regular smokers and former smokers are less likely to be physically active during leisure time than persons who have never smoked cigarettes daily (Text Table 10-A). In the total population, 28% of regular smokers and 31% of former smokers are physically active, compared to 35% of adults who have never smoked.

Among men, 33% of regular smokers and former smokers are physically active, compared to 47% of adult men who have never smoked. Among women, 30% of former smokers are physically active, compared to 23% of regular smokers and 25% of women who have never smoked (data not shown).

FIGURE 10-C
"Active" leisure-time physical activity by region and sex, age 15+, Canada, 1991



General Social Survey, 1991

10.3.5 Physical Activity and Health Problems

The prevalence of self-reported health problems is higher in the sedentary population than in the physically active population (Table 10-4). Compared to physically active adults, sedentary adults report a higher prevalence of hypertension, heart trouble, diabetes, emphysema, arthritis and rheumatism, migraines, high blood cholesterol, and emotional disorders. This pattern is evident for both men and women and is true for all age groups (data not shown). Indeed, the relationship is most evident for older age groups (Figure 10-D).

10.4 DISCUSSION

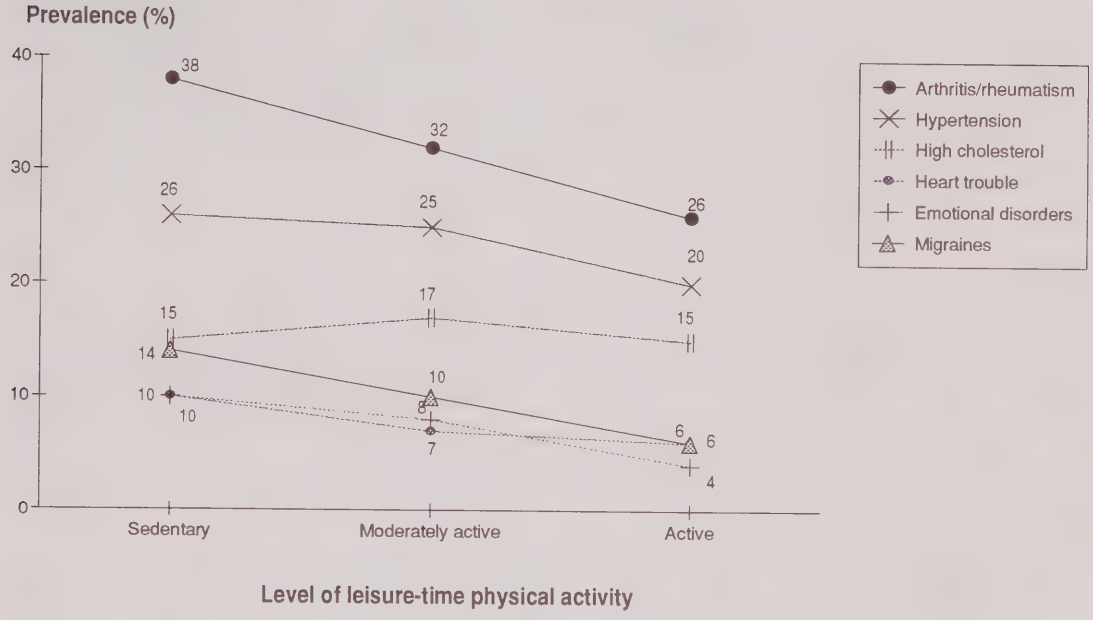
10.4.1 Changes Since 1985

Between 1985 and 1991, the proportion of the adult Canadian population defined as "active" appeared to increase modestly in all age groups (Text Table 10-B). About 27% of adults were classified as physically active in 1985, compared to 32% in 1991. The overall increase was greater among men (eight percentage points) than among women (three percentage points). The higher leisure-time physical activity score of males compared to females, generally stems from the fact that males engage in more vigorous activities than females.

10.4.2 Methodological Considerations

One of the difficulties in interpreting changes over time in the physical activity levels of Canadians is the lack of consistency in the survey measurement instruments. As noted above, the focus in the 1985 GSS was on vigorous activities, and that survey determined the frequency and average duration of the two most frequent of these activities for each respondent. In 1991, respondents reported the usual number of hours per week spent on each of light, moderate, and vigorous activity. As most active Canadian adults choose moderate over vigorous activities, [5] and as moderate activities were probed only in 1991, there is the distinct possibility of a

FIGURE 10-D
Prevalence (%) of health problems by level of leisure-time physical activity, ages 45-64, Canada, 1991



General Social Survey, 1991

spurious increase in activity due to the different approach in questioning. This possibility, along with the finding of the 1990 Health Promotion Survey[6] that the highly active population *declined* between 1985 and 1990, suggests that the 1991 GSS results of a more active population in 1991 should be treated cautiously until further substantiating evidence is found.

The General Social Survey is a cross-sectional survey. Consequently, observed differences by age and sex may reflect age-related changes at a particular point in time, or they may reflect differences in different birth cohorts over time. Moreover, there is no possibility of identifying cause-and-effect relationships. Nevertheless, it is instructive that the relationships between physical activity and health status are independent of age, biologically plausible, and consistent with evidence from longitudinal studies and clinical trials.[7] Notwithstanding this, the association between level of physical activity and self-reported health problems is complex. The state of people's health may influence their level of physical activity, and, in turn, their level of physical activity may influence their health. While there is consensus that an active lifestyle is generally beneficial for health, physical activity does lead to the possibility of injuries.[8]

In addition, participation in leisure-time physical activity may itself be an indirect measure of a constellation of health-promoting behaviours. Persons who engage in leisure-time physical activities may also be persons who have never smoked, who drink moderately, and who exercise control over their weight through proper nutrition. Consequently, associations between level of physical activity and self-reported health problems may be due in part to the association of other risk factors with physical activity and with health problems.

TEXT TABLE 10-A
Physical activity level by selected smoking status, age 15+, Canada, 1991

Type of smoker	Physical activity level		
	Sedentary	Moderately active	Active
	(Percent)		
Population 15+	**22**	**42**	**32**
Regular smoker	27	43	28
Former smoker	22	43	31
Never daily smoker	21	41	35

General Social Survey, 1991

TEXT TABLE 10-B
Physically active population, by age group and sex, age 15+, Canada, 1985 and 1991

Year and sex	Age group				
	Population 15+	15-24	25-44	45-64	65+
	(Percent)				
1985					
Both sexes	27	48	29	12	10
Male	31	55	33	12	15
Female	23	41	25	12	6
1991					
Both sexes	32	55	36	21	12
Male	39	65	43	25	13
Female	26	44	28	17	10

General Social Survey, 1985 and 1991

The association between physical activity levels and smoking behaviour may reflect the interplay of other variables. Observed differences in leisure-time physical activity may also reflect antecedent variables such as socio-economic status and age that are related to both smoking and physical activity. The fact that occasional smokers may be more physically active may reflect the fact that occasional smokers tend to have a younger age distribution than regular smokers and younger adults tend to be more physically active.

10.4.3 Other Considerations

The observation that Prince Edward Island has the highest prevalence of physical activity is inconsistent with the results of other recent studies,[2,3,6] which have consistently shown that the prevalence of physical activity is below the national average in the Atlantic provinces (with the exception of men in Nova Scotia). The above-average activity levels in British Columbia are consistent with other surveys, however. Future surveys will bear watching to see if the 1991 GSS finding of high levels of activity in Atlantic Canada is replicated.

As provincial differences in the prevalence of physical activity are not explained by wide differences in the age distribution of the regions, questions are raised regarding reasons for the differences. Do they reflect a climate that is more hospitable to outdoor activities? Are there differences at the community level in Prince Edward Island that facilitate physical activity in all age groups? Perhaps the differences reflect a more generalized attitude towards lifestyle and the role of physical activity. Are there differences within social institutions, such as schools and workplaces, that may facilitate physical activity more in Prince Edward Island than in the rest of Canada? A complex mix of individual, psychological, social, and environmental factors determines participation in physical activity;[9] some of these can be explored further through multivariate analysis of the 1991 GSS results.

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TABLE 10-1
Leisure-time physical activity level by sex and age group, age 15+, Canada, 1991

Sex and age group	Total population 15+		Leisure-time physical activity level							
			Sedentary		Moderately active		Active		Not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)									
Both sexes										
Population 15+	20,981	100	4,686	22	8,763	42	6,744	32	789	4
15-24 years	3,793	100	363	10	1,255	33	2,082	55	92	2
15-19 years	1,825	100	116	6	601	33	1,062	58	--	--
20-24 years	1,967	100	247	13	654	33	1,020	52	46	2
25-44 years	9,005	100	1,928	21	3,602	40	3,212	36	263	3
45-64 years	5,275	100	1,348	26	2,598	49	1,110	21	219	4
65+ years	2,908	100	1,046	36	1,308	45	339	12	214	7
65-74 years	1,824	100	539	30	882	48	281	15	122	7
75+ years	1,084	100	507	47	426	39	59	5	92	9
Male										
Population 15+	10,266	100	1,980	19	3,881	38	4,008	39	398	4
15-24 years	1,935	100	108	6	531	27	1,258	65	--	--
15-19 years	936	100	--	--	257	27	621	66	--	--
20-24 years	1,000	100	79	8	275	27	637	64	--	--
25-44 years	4,476	100	898	20	1,537	34	1,925	43	117	3
45-64 years	2,611	100	620	24	1,189	46	660	25	141	5
65+ years	1,245	100	354	28	624	50	165	13	102	8
65-74 years	796	100	189	24	420	53	133	17	54	7
75+ years	448	100	165	37	204	45	31	7	48	11
Female										
Population 15+	10,715	100	2,705	25	4,882	46	2,736	26	391	4
15-24 years	1,857	100	255	14	724	39	824	44	55	3
15-19 years	890	100	87	10	345	39	441	50	--	--
20-24 years	968	100	168	17	379	39	383	40	37	4
25-44 years	4,530	100	1,031	23	2,065	46	1,288	28	146	3
45-64 years	2,664	100	727	27	1,409	53	450	17	79	3
65+ years	1,664	100	693	42	685	41	175	10	112	7
65-74 years	1,028	100	350	34	462	45	147	14	68	7
75+ years	636	100	342	54	222	35	27	4	44	7

General Social Survey, 1991

TABLE 10-2
Leisure-time physical activity level by sex and province, age 15+, Canada, 1991

Sex and province	Leisure-time physical activity level									
	Total population 15+		Sedentary		Moderately active		Active		Not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)									
Both sexes										
Canada	20,981	100	4,686	22	8,763	42	6,744	32	789	4
Atlantic	1,806	100	328	18	738	41	687	38	52	3
Newfoundland	438	100	81	18	162	37	185	42	10	2
Prince Edward Island	98	100	15	15	36	37	44	45	--	--
Nova Scotia	704	100	108	15	294	42	279	40	23	3
New Brunswick	566	100	125	22	246	43	179	32	16	3
Quebec	5,384	100	1,544	29	2,504	47	1,294	24	41	1
Ontario	7,778	100	1,778	23	3,198	41	2,383	31	418	5
Prairies	3,482	100	648	19	1,280	37	1,309	38	244	7
Manitoba	839	100	186	22	300	36	285	34	67	8
Saskatchewan	742	100	144	19	273	37	276	37	49	7
Alberta	1,901	100	318	17	707	37	748	39	128	7
British Columbia	2,532	100	386	15	1,042	41	1,071	42	33	1
Male										
Canada	10,266	100	1,980	19	3,881	38	4,008	39	398	4
Atlantic	885	100	138	16	341	39	381	43	26	3
Newfoundland	217	100	29	13	79	37	106	49	--	--
Prince Edward Island	48	100	6	13	14	28	26	55	--	--
Nova Scotia	343	100	48	14	135	39	149	44	--	--
New Brunswick	277	100	54	20	113	41	99	36	11	4
Quebec	2,617	100	705	27	1,112	43	782	30	--	--
Ontario	3,796	100	682	18	1,403	37	1,490	39	221	6
Prairies	1,725	100	255	15	598	35	752	44	120	7
Manitoba	411	100	61	15	145	35	171	42	33	8
Saskatchewan	367	100	67	18	116	32	159	43	24	7
Alberta	948	100	126	13	337	36	422	45	63	7
British Columbia	1,243	100	201	16	426	34	603	48	--	--
Female										
Canada	10,715	100	2,705	25	4,882	46	2,736	26	391	4
Atlantic	921	100	191	21	397	43	307	33	26	3
Newfoundland	221	100	52	24	83	37	79	36	--	--
Prince Edward Island	50	100	8	16	23	45	18	35	--	--
Nova Scotia	361	100	60	17	159	44	130	36	12	3
New Brunswick	289	100	71	25	133	46	80	28	--	--
Quebec	2,767	100	840	30	1,392	50	512	18	--	--
Ontario	3,982	100	1,096	28	1,796	45	893	22	197	5
Prairies	1,756	100	393	22	682	39	557	32	124	7
Manitoba	428	100	125	29	155	36	114	27	34	8
Saskatchewan	375	100	77	20	157	42	116	31	25	7
Alberta	953	100	192	20	370	39	326	34	65	7
British Columbia	1,288	100	185	14	615	48	468	36	20	2

General Social Survey, 1991

TABLE 10-3
Leisure-time physical activity level by sex and education, age 15+, Canada, 1991

Sex and education	Total population 15+		Leisure-time physical activity level							
			Sedentary		Moderately active		Active		Not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)									
Both sexes										
All education levels	20,981	100	4,686	22	8,763	42	6,744	32	789	4
Some secondary or less	7,190	100	2,086	29	3,093	43	1,753	24	257	4
Secondary graduation	3,399	100	725	21	1,481	44	1,112	33	81	2
Some post secondary	3,401	100	562	17	1,371	40	1,332	39	135	4
Post sec. degree or diploma	6,601	100	1,244	19	2,758	42	2,506	38	93	1
Not stated	390	100	68	17	59	15	--	--	223	57
Male										
All education levels	10,266	100	1,980	19	3,881	38	4,008	39	398	4
Some secondary or less	3,469	100	867	25	1,402	40	1,072	31	129	4
Secondary graduation	1,510	100	252	17	553	37	664	44	41	3
Some post secondary	1,666	100	235	14	645	39	719	43	67	4
Post sec. degree or diploma	3,426	100	609	18	1,245	36	1,522	44	50	1
Not stated	195	100	--	--	36	18	--	--	112	57
Female										
All education levels	10,715	100	2,705	25	4,882	46	2,736	26	391	4
Some secondary or less	3,721	100	1,219	33	1,691	45	681	18	129	3
Secondary graduation	1,889	100	473	25	928	49	448	24	40	2
Some post secondary	1,735	100	327	19	726	42	614	35	68	4
Post sec. degree or diploma	3,175	100	635	20	1,513	48	984	31	43	1
Not stated	195	100	51	26	--	--	--	--	111	57

General Social Survey, 1991

TABLE 10-4
Prevalence of selected health problems by sex and leisure-time physical activity level, age 15+, Canada, 1991

Sex and leisure-time physical activity level	Total population 15+		Health problems(1)															
			Hyper-tension		Heart trouble		Diabetes		Arthritis and rheumatism		Emphyse-ma, etc.		Recurring migraines		High blood cholesterol		Any emotional disorders	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(No. in thousands)																	
Both sexes																		
Total	20,981	100	3,311	16	1,437	7	740	4	4,335	21	1,671	8	1,950	9	1,759	8	1,114	5
Sedentary	4,686	100	985	21	527	11	217	5	1,446	31	651	14	546	12	448	10	388	8
Mod. active	8,763	100	1,494	17	600	7	343	4	1,919	22	633	7	837	10	883	10	498	6
Active	6,744	100	678	10	241	4	128	2	792	12	336	5	509	8	379	6	192	3
Not stated	789	100	153	19	69	9	52	7	178	23	53	7	58	7	49	6	36	5
Male																		
Total	10,266	100	1,605	16	683	7	365	4	1,684	16	737	7	517	5	879	9	395	4
Sedentary	1,980	100	383	19	209	11	94	5	497	25	266	13	104	5	184	9	107	5
Mod. active	3,881	100	723	19	304	8	169	4	739	19	271	7	226	6	420	11	192	5
Active	4,008	100	424	11	129	3	76	2	371	9	176	4	177	4	253	6	84	2
Not stated	398	100	76	19	41	10	26	6	78	20	--	--	--	--	--	--	--	--
Female																		
Total	10,715	100	1,705	16	754	7	375	4	2,651	25	934	9	1,433	13	880	8	719	7
Sedentary	2,705	100	602	22	318	12	123	5	949	35	385	14	442	16	264	10	281	10
Mod. active	4,882	100	772	16	296	6	174	4	1,180	24	361	7	612	13	464	10	306	6
Active	2,736	100	254	9	112	4	52	2	422	15	159	6	332	12	126	5	108	4
Not stated	391	100	78	20	28	7	26	7	100	26	29	7	47	12	26	7	--	--

General Social Survey, 1991

(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of affirmative responses shown.

APPENDIX I
SAMPLE DESIGN AND ESTIMATION PROCEDURES

POPULATION

The target population of the 1991 General Social Survey (GSS) includes all persons aged 15 and over living in Canada, with the following exceptions:

1. full-time residents of institutions;
2. residents of the Yukon and Northwest Territories.

Since random digit dialling techniques were used to select households, households (thus persons living in households) that did not have telephones at the time of the survey were excluded from the surveyed population. These households account for less than 2% of the total population.

The survey estimates have been adjusted (weighted) to represent the entire target population, including persons without telephones and other exclusions.

SAMPLE DESIGN AND SELECTION METHODS

Data for Cycle 6 of the GSS were collected monthly from January to December 1991. The sample was evenly distributed over the 12 months to counterbalance seasonal variation in the information gathered. Most of the sample was selected using the Elimination of Non-Working Banks (ENWB) technique of random digit dialling (RDD).

Stratification

In order to carry out sampling, each of the 10 provinces was divided into strata or geographic areas. Generally, for each province one stratum represented the Census Metropolitan Areas (CMAs) of the province and another represented the non-CMA areas. There were two exceptions to this general rule:

- Prince Edward Island has no CMA and so did not have a CMA stratum
- Montreal and Toronto were each separate strata.

The area code and prefix combinations that corresponded to the strata were determined and used to select the appropriate samples in each stratum. Since area code-prefix boundaries did not always correspond exactly to the intended stratum boundaries, small biases may have been introduced at this stage.

The typical GSS sample size (without any oversampling) of approximately 10,000 households was chosen as being large enough to allow extensive analysis at the national level and more limited analysis below this level. It was allocated to provinces in proportion to the square root of their populations and to the strata within provinces in proportion to their populations.

Elimination of Non-Working Banks RDD Design

The ENWB sampling technique is an RDD method in which an attempt is made to identify all working banks* for an area (i.e., to identify all banks with at least one household). Thus, all telephone numbers within non-working banks are eliminated from the sampling frame.

For each province, lists of telephone numbers in use were purchased from the telephone companies and lists of working banks were extracted. Each bank was assigned to a stratum within its province.

A special situation existed in Ontario and Quebec because some small areas are serviced by independent telephone companies rather than by Bell Canada. The area code prefixes for these areas were identified by matching the Bell file with a file of all area codes and prefixes. Area code prefixes from Ontario and Quebec and not on the Bell file were identified. All banks within these area code prefixes were generated and added to the sampling frame. Use of the Waksberg method[1] was not possible for these areas since it requires that an accurate population estimate be available for the survey area. Such an estimate was not available for the parts of Ontario and Quebec not covered by Bell.

A similar situation also existed for all of Prince Edward Island for the first eight months of the survey. During this period, the Waksberg method would have provided a more efficient generation of household telephone numbers. However, the Waksberg method would not have been as statistically efficient (due to clustering) and also would have introduced operational complexities. In September, telephone files from the phone company servicing Prince Edward Island became available. The non-working banks were then eliminated from the frame.

A random sample of telephone numbers was generated in each survey month for each stratum (from the working banks). An attempt was made to generate the entire sample of telephone numbers on the first day of interviewing. Therefore, a prediction of the percentage of numbers dialled that would reach a household had to be made (this is known as the "hit rate"). The hit rate for January, the first survey month, was estimated using information from previous RDD surveys. Hit rates for subsequent months were revised as required based on January's experience.

* A bank of telephone numbers is a set of 100 numbers with the same first eight digits (i.e., the same Area Code-Prefix-Bank ID). Thus 613-951-9180 and 613-951-9192 are in the same bank, but 613-951-9280 is in a different bank.

For Cycle 6 of the GSS, 45.4% of the numbers dialled reached households. An attempt was made to conduct a GSS interview with one randomly selected person from each household.

Supplementary Sample of the Elderly

The Department of National Health and Welfare sponsored a supplementary sample of seniors (aged 65 and over), which roughly doubled the size of the sample for this group. This supplementary sample was a simple random sample selected from lists of households that had recently been part of the Labour Force Survey (LFS) sample and were known to have at least one senior living there.

WEIGHTING AND ESTIMATION

Weighting

A self-weighting sample design is one for which the weights of each unit in the sample are the same. The portion of the GSS sample selected using the ENWB sampling technique has such a design, each household within a stratum having an equal probability of selection.

This probability is equal to:

$$\frac{\text{Number of telephone numbers sampled within the stratum}}{\text{Total number of eligible numbers within the stratum}}$$

(The total number of eligible telephone numbers for a stratum is equal to the number of working banks for a stratum multiplied by 100.)

The supplementary component of the survey was a simple random sample drawn from households recently in the LFS. Their individual probabilities of selection were thus proportional to the probability of selection of the household in the LFS.

Where possible, each survey month was weighted independently. This was done in an attempt to ensure that each survey month contributed equally to estimates. If monthly sample sizes were not large enough, two or more survey months were combined in certain steps of the weighting.

The initial weight is adjusted for household non-response, for the number of telephone numbers a household has, and for the number of persons living in the household who are 15 years of age or over. The second adjustment corrects for the higher probability of households with more than one

telephone number being sampled and the third adjustment converts the household weight into a "person weight."

These person weights were then adjusted to external population totals using a raking ratio procedure. This procedure ensured that, based on the survey's total sample, estimates produced of the size of strata or of province-age-sex groups would match external references. The age groupings used were:

15-19	20-24	25-29	30-34	35-39	40-44
45-49	50-54	55-59	60-64	65-69	70+

Estimation

When a probability sample is used, as was the case for the GSS, the principle behind estimation is that each person selected in the sample "represents" (in addition to himself/herself) several other persons not in the sample. For example, in a simple random sample of 2% of the population, each person in the sample represents 50 persons in the population.

The estimate of the number of persons in the population having a given set of characteristics is determined by summing the weights of all sampled persons with that set of characteristics. The estimates of persons presented in the tables are rounded to the nearest thousand, which not only improves readability but also provides data at an appropriate level of precision.

APPROXIMATE STANDARD DEVIATIONS, CONFIDENCE INTERVALS, AND HYPOTHESIS TESTING

Using the following guidelines, users should be able to estimate standard deviations, calculate confidence intervals and perform hypothesis testing for qualitative estimates (i.e. estimates of the number or proportion of people possessing certain characteristics) in this publication. These qualitative estimates include totals, percentages, differences between totals, and differences between percentages.

Approximate Standard Deviations

The estimates contained in this publication are based on a sample of individuals. Somewhat different figures might have been obtained if a complete census had been taken using the same questionnaire, interviewers, supervisors, processing methods, etc. as those actually used. The difference between the estimates obtained from the sample and the results from a complete count taken under similar conditions is called the sampling error of the estimate.

Although the exact sampling error of the estimate, as defined above, cannot be measured from the sample results alone, it is possible to estimate a statistical measure of the sampling error, the standard deviation, from the sample data.

Using the information contained in Table 1 and the accompanying rules users can calculate approximate standard deviations for estimates of totals, percentages and for differences between estimates of totals or percentages.

Since estimates contained in this publication are based on a complex sample design, a factor called the design effect has been introduced into the standard deviation formula. The design effect for an estimate is the actual variance (taking into account the design that was used) divided by the variance that would result if the estimate had been derived from a simple random sample of the same size as the actual sample. The design effects given in Table 1 have been determined by first calculating design effects for a wide range of characteristics and then choosing among these a conservative value which will not give a false impression of high precision.

Appendix Table 1: Sample Information used to Estimate Standard Deviations

Geographic Area	Design Effect (B)	Sample Size (n)	Population Size (N)
Canada	1.66	11,924	20,981,000
Atlantic Region	1.41	2,363	1,806,000
Newfoundland	1.29	629	438,000
Prince Edward	1.19	294	98,000
Nova Scotia	1.33	740	704,000
New Brunswick	1.32	700	566,000
Quebec	1.33	2,278	5,384,000
Ontario	1.36	2,559	7,778,000
Prairie Region	1.38	3,191	3,482,000
Manitoba	1.34	883	839,000
Saskatchewan	1.31	874	742,000
Alberta	1.33	1,434	1,901,000
British Columbia	1.32	1,533	2,532,000

Rule 1: Estimates of Totals Possessing a Characteristic (Aggregates)

The estimated standard deviation of an estimated total (X) is

$$\textit{standard deviation}\ (X) = \sqrt{\frac{B \times X \times (N-X)}{n}}$$

where n = sample size, from Table 1
N = population size, from Table 1
B = design effect, from Table 1
X = estimated total

Example 1:

In Canada an estimated 2,953,000 females aged 15 years and over have difficulty sleeping (see Text Table 2-B). What is the estimated standard deviation for this estimate?

The estimated total is 2,953,000. This is a Canada level estimate. From Table 1 we see that the design effect is 1.66, the sample size is 11,924, the population size is 20,981,000. The estimated standard deviation of the estimated total 2,953,000 is

$$\text{standard deviation} = \sqrt{\frac{1.66 \times 2{,}953{,}000 \times (20{,}981{,}000 - 2{,}953{,}000)}{11{,}924}}$$

$$\text{standard deviation} = 86{,}089.177$$

Rule 2: Estimates of Percentages Possessing a Characteristic

This rule applies to percentages or proportions (i.e. the numerator is a subset of the denominator). The estimated standard deviation of a percentage estimate (P = X/Y) is

$$\text{standard deviation } (P) = \sqrt{\frac{B \times N \times P \times (1-P)}{Y \times n}}$$

where n = sample size, from Table 1
N = population size, from Table 1
B = design effect, from Table 1
Y = estimated denominator on which percentage is based
P = the estimated percentage

Example 2:

In Canada 28% of females aged 15 years and over report difficulty sleeping. This is the expression of the estimate obtained in Example 1 as a percentage of all females aged 15 years and over in Canada. The estimated standard deviation for this estimate is

$$\text{standard deviation} = \sqrt{\frac{1.66 \times 20{,}981{,}000 \times 0.28 \times (1 - 0.28)}{10{,}715{,}000 \times 11{,}924}}$$

$$\text{standard deviation} = 0.007413193$$

Rule 3: Differences Between Totals or Percentages

The estimated standard deviation of a difference between two estimates is approximately equal to the square root of the sum of the squares of the estimated standard deviation of each estimate. That is, the estimated standard deviation of a difference d = X - Y is

$$\text{standard deviation } (d) = \sqrt{(\text{standard deviation } (X))^2 + (\text{standard deviation } (Y))^2}$$

This formula is accurate for the difference between uncorrelated characteristics and is approximate for the difference between characteristics which have small correlations.

Example 3:

In Canada, among those 15 years and over, an estimated 28% of females and an estimated 19% of males have difficulty sleeping. What is the estimated standard deviation for the difference of the estimates?

From Example 2, the estimated standard deviation for the female estimate is 0.007413193. The estimated standard deviation for the male estimate is 0.006617208.

The difference between the male and female estimates is 9%. Using Rule 3, the estimated standard deviation of the difference between the estimates is

$$\text{standard deviation} = \sqrt{(0.007413193)^2 + (0.006617208)^2}$$

$$\text{standard deviation} = 0.009936945$$

Confidence Intervals

A confidence interval constitutes a statement on the level of confidence that the true value for the population lies within a specified range of values. For example a 95% confidence interval can be described as follows:

> If sampling of the population is repeated many times and for each sample a confidence interview is calculated for an estimate, then in 95% of the samples the interval will cover the true population value.

Assuming that an estimate has an approximately normal distribution (under repeated sampling and estimation), the chances are about 68 out of 100 that the true value lies within one standard deviation of the estimate, about 95 out of 100 that the true value lies within two standard deviations, and about 99 out of 100 that the true value lies within three standard deviations.

Confidence intervals for an estimate, X, are generally expressed as two numbers, one below the estimate and one above the estimate, as [X-k, X+k] where k is determined depending upon the level of confidence desired and the sampling error of the estimate.

A confidence interval for an estimate, X, is

$$\textit{Confidence Interval}\ (X) = [X - (t \times \sigma_X),\ X + (t \times \sigma_X)]$$

where σ_X is the estimated standard deviation of X
t = 1 if a 68% confidence interval is desired
t = 1.6 if a 90% confidence interval is desired
t = 2 if a 95% confidence interval is desired
t = 3 if a 99% confidence interval is desired

Example 4:

An estimated 2,953,000 females have difficulty sleeping. This estimate has an estimated standard deviation of 86,089.177. The 95% confidence interval for this estimate is

Confidence Interval = [2,953,000 - (2 × 86,089.177), 2,953,000 + (2 × 86,658.388)]

Confidence Interval = [2,780,822, 3,125,178]

With 95% confidence it can be said that the true estimate of females who have difficulty sleeping lies between 2,780,822 and 3,125,178.

Example 5:

An estimated 28% of females aged 15 years and over have difficulty sleeping. From Example 2 this estimate has an estimated standard deviation of 0.007413193. A 95% confidence interval for this estimate (expressed as a proportion) is

Confidence Interval = [0.28 - (2 × 0.007413193), 0.28 + (2 × 0.007413193)]

Confidence Interval = [0.2652, 0.2948]

With 95% confidence it can be said that between 26.5% and 29.5% of females aged 15 years and over in Canada have difficulty sleeping.

Hypothesis Testing

Standard deviations may also be used to perform hypothesis testing, a procedure for distinguishing between population parameters using sample estimates. The sample estimates can be totals, percentages or differences of estimates. Tests may be performed at various levels of significance, where a level of significance is the probability of concluding that the characteristics are different when, in fact, they are identical.

Let X_1 and X_2 be sample estimates for 2 characteristics of interest. Let the estimated standard deviation of the difference $X_1 - X_2$ be σ_d.

Consider the test statistic

$$t = \frac{X_1 - X_2}{\sigma_d}$$

and the critical value c

where c = 1.6, at the 10% level of significance
c = 2, at the 5% level of significance
c = 3, at the 1% level of significance

If the test statistic t is between -c and +c (i.e. -c <= t <= +c) then no conclusion about the difference between the characteristics is justified at that level of significance. If however, t is smaller than -c (i.e. t < -c) or larger than +c (i.e. t > +c), the observed difference is significant at the specified level of significance (i.e. 10%, 5% or 1% level).

Example 6:

A user wishes to test at the 5% level of significance the hypothesis that at the Canada level there is no difference between percentage estimates of males and females who have sleeping difficulties. From Example 3 the estimate of the standard deviation of the difference between the estimates is 0.009936945. The test statistic is

$$t = \frac{0.28 - 0.19}{0.009936945}$$

$$t = 9.06$$

Since t = 9.06 is greater than 2, there is evidence to reject the hypothesis and conclude that the difference is significant at the 5% level.

REFERENCES

1. Waksberg, J. Sampling methods for random digit dialling, *Journal of the American Statistical Association*. 1978;7340-46.

APPENDIX II

Cycle Six Questionnaires

Content and Questionnaires

Three questionnaires were used to collect Cycle 6 information:

Questionnaire	Age group	Title
GSS 6-1	All age groups	Control Form
GSS 6-1B (not included)	Ages 65 and over (LFS oversample only)	Control Form
GSS 6-2	Ages 15 and over	Health Questionnaire

The GSS 6-1 was completed for each telephone number selected in the sample. It lists all household members, collecting basic demographic information, specifically age, sex, marital status, and relation to reference person.

A respondent aged 15 or over was then randomly selected and a GSS 6-2 was completed for this person. In cases where the selected respondent either was too ill or did not speak either official language, a proxy interview was conducted when possible. For the oversample of seniors, the GSS 6-1B was used to select a respondent from household members aged 65 and older.

The GSS 6-2 questionnaire collected the following types of information from persons aged 15 and over living in the 10 provinces: the respondent's health status, health status indicators, and activity limitations of the respondent; information on two-week disability, flu vaccinations, 12-month health care contact and health care delays; information on emotional health and satisfaction measures, and occupational health, including job benefits and workplace health hazards; and information on risk factors, such as alcohol consumption, physical activity, smoking, sleeping patterns, and weight and height.

General Social Survey Control Form

Enquête sociale générale Formule de contrôle

GSS / ESG 6-1

CONFIDENTIAL when completed

CONFIDENTIEL une fois rempli

1: ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ 2: ___ S

Telephone number/numéro de téléphone

3: ___ P/S/E 4: ___ O 5: ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ L.I.N./N.E.I.

TELEPHONE NUMBER LABEL
ÉTIQUETTE NUMÉRO DE TÉLÉPHONE

Collected under the authority of the Statistics Act, Revised Statutes of Canada, 1985, Chapter S19

Renseignements recueillis en vertu de la Loi sur la statistique, Lois révisées du Canada, 1985 Chapitre S19

RECORD OF CALLS - REGISTRE DES APPELS

10	11 Date		12 Start Début		13 Finish Fin		14 Result Résultat	15 Interviewer's Name Nom de l'intervieweur	16 Comments Remarques
	Day Jour	Month Mois	Hour Heure	Min. Min.	Hour Heure	Min. Min.			
01									
02									
03									
04									
05									
06									
07									
08									
09									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
Final Call - Appel Final									
99									

17. Call Coverage by Time of Day and Day of Week
Appels selon l'heure et le jour

Time Period Heure	Mon. Lun.	Tues. Mar.	Wed. Mer.	Thur. Jeu.	Fri. Ven.	Sat. Sam.
09:00 - 12:00						
12:01 - 16:00						
16:01 - 19:00						
19:01 - 21:00						

18. Forms Control
Contrôle des formules

Form Formule	Number of forms Nombre de formules
GSS/ESG 6-1	
GSS/ESG 6-2	

19. Interviewer Number
Nº de l'intervieweur

___ ___ ___ ___ ___ ___ ___

Senior Interviewer Only
Intervieweur principal seulement

20. Final Status
État final

___ ___

8-4500-54: 1990-10-04 STC / HFS - 027 - 04085
SQC / SLF - 027 - 04085

Statistics Canada Statistique Canada

Canada

21. Hello, I'm . . . . . from Statistics Canada. I'm calling you for a survey about the health of Canadians.

Bonjour, ici . . . . . de Statistique Canada. Nous vous appelons concernant une étude au sujet de la santé des Canadiens.

22. I'd like to make sure that I've dialed the right number. Is this . . . . . *(read number)*?

Yes . . . . . ○

No . . . . . ○ → *Dial again, if still wrong, END*

J'aimerais m'assurer que j'ai composé le bon numéro. S'agit-il du nº *(lire le numéro)*?

Oui . . . . . ○

Non . . . . . ○ → *Composez de nouveau. S'il s'agit encore d'un mauvais numéro, METTEZ FIN A L'INTERVIEW.*

23. All information we collect in this voluntary survey will be kept confidential. Your participation is essential if the survey results are to be accurate.

Tous les renseignements que vous fournirez pour cette enquête volontaire resteront confidentiels. Votre participation est essentielle afin que les résultats soient précis.

24. Is this the number for a business, an institution or a private home?

Private home ○
Both home and business ○ → *Go to 27*

Business, institution or other non residence . . . . . ○

S'agit-il du numéro d'une entreprise, d'un établissement ou d'une maison privée?

Maison privée . . . . . ○
Entreprise et maison privée ○ → *Passez à 27*

Entreprise, établissement ou autre immeuble non résidentiel ○

25. Does anyone use this telephone number as a home phone number?

Yes . . . . . ○

No . . . . . ○ → *Thank respondent and END*

Quelqu'un utilise-t-il ce numéro de téléphone comme numéro personnel?

Oui . . . . ○

Non ○ → *Remerciez le repondant et METTEZ FIN A L'INTERVIEW.*

26. How many people live or stay at this address and use this number as a home phone number?

Less than 15 . . ○

15 or more ○ → *Make appointment*

Combien de personnes vivent ou demeurent à cette adresse et utilisent ce numéro de téléphone comme numéro personnel?

Moins de 15 ○

15 ou plus ○ → *Fixez un rendez-vous*

27. I need to select one person from your household for an interview. What is the first name and age of each person living or staying there who has no usual place of residence elsewhere? Please start with the oldest.

(Enter names and ages in items Z3 and Z5.)

Je dois choisir une personne de votre ménage pour une interview. Quel est le prénom et l'âge de chaque personne qui vit ou demeure à cet endroit et qui n'a pas d'autre lieu habituel de résidence. Veuillez commencer par la personne la plus âgée du menage.

(Inscrivez le nom et l'âge aux rubriques Z3 et Z5.)

28. *INTERVIEWER: Complete items Z6 through Z12 for each person recorded in item Z3.*

Refer to Interviewer Reference Card for instructions and codes.

Then go to item 29.

INTERVIEWEUR: Remplissez les rubriques Z6 à Z12 pour chaque personne inscrite à la rubrique Z3.

Pour les instructions et les codes, voir la Fiche de référence de l'intervieweur.

Puis, passez à la rubrique 29.

1: ⌊⌊⌊⌋-⌊⌊⌊⌋-⌊⌊⌊⌊⌋ 2: ⌊⌋

Telephone Number/Numéro de téléphone S

SELECTION GRID LABEL
ÉTIQUETTE GRILLE DE SÉLECTION

A = Eligible Household Members — Membres admissibles du ménage

B = Selection Number — Numéro de sélection

Z1. Page / Page	Z2. Line / Ligne	Z3. Names of Household Members / Noms des membres du ménage	Z4. Sel. No. / Nº de Sel.	Z5. Age / Âge
	1			
	2			
	3			
	4			
	5			
	6			
	7			
	8			

29. *INTERVIEWER:* *Enter the Page-Line Number of person giving the preceding information ....*	*INTERVIEWEUR:* *Inscrivez le numéro de page-ligne de la personne qui donne les renseignements précédents ...*
7 ⎵ ⎵ *Page-Line Number of household respondent*	7 ⎵ ⎵ *Numéro de page-ligne du répondant du ménage*
30. Are there any people away from this household attending school, visiting, travelling or in the hospital who USUALLY live there?	**Y a-t-il d'autres personnes qui sont absentes du ménage parce qu'elles sont aux études, en visite, en voyage ou à l'hôpital mais qui demeurent HABITUELLEMENT là?**
Yes ...... 1 ○ → *Enter names and complete items Z5 through Z12.*	Oui ...... 1 ○ → *Inscrivez leur nom et remplissez les rubriques Z5 à Z12.*
No ...... 2 ○	Non ..... 2 ○
31. Does anyone else live there, such as other relatives, roomers, boarders or employees?	**Y a-t-il d'autres personnes qui demeurent là, par exemple des personnes apparentées, des chambreurs, des pensionnaires ou des employés?**
Yes ...... 3 ○ → *Enter names and complete items Z5 through Z12.*	Oui ...... 3 ○ → *Inscrivez leur nom et remplissez les rubriques Z5 à Z12.*
No ...... 4 ○	Non ..... 4 ○
32. *INTERVIEWER:* *In item Z4 number the people 15 years of age and over, in order, from oldest to youngest. Enter number of eligible household members...*	*INTERVIEWEUR:* *À la rubrique Z4, attribuez un numéro aux personnes âgées de 15 ans et plus - de la plus âgée à la plus jeune. Inscrivez le nombre de personnes admissibles du ménage ...*
8 ⎵ ⎵ *Number of eligible household members*	8 ⎵ ⎵ *Nombre de personnes admissibles du ménage*
33. *INTERVIEWER:* *Determine the selected respondent by referring to the Selection Grid Label. In item Z4 circle the selection number of the selected respondent and enter Page-Line Number ...*	*INTERVIEWEUR:* *Déterminez le répondant sélectionné en utilisant l'étiquette grille de sélection. À la rubrique Z4, encerclez le numéro de sélection du répondant sélectionné et inscrivez le numéro de page-ligne ...*
9 ⎵ ⎵ *Page-Line Number of selected respondent*	9 ⎵ ⎵ *Numéro de page-ligne du répondant sélectionné*
34. The person I am to interview is ...... *(read name).* **(Is he/she there?)**	**La personne que je vais interviewer est ......** *(lisez le nom).* **(Est-il/elle là?)**
Yes .... ○ → *Go to Form GSS 6-2 and begin interview.*	Oui .... ○ → *Passez à la formule ESG 6-2 et commencez l'interview.*
No .... ○ → *Set up appointment and enter details in item 16.*	Non .... ○ → *Fixez un rendez-vous et inscrivez les détails à la rubrique 16.*

Z6. Sex Sexe	**Z7.** **What is ... marital status? (refer to form GSS 6-5)** **Quel est l'etat matrimonial de . . .? (Reportez-vous à la formule ESG 6-5)**	**Z8.** Family Identifier Code-famille	**Z9.** **What is . . .'s relationship to . . .** (the family reference person)? **Quel est le lien de . . . avec . . .** (la personne de référence de la famille)?	Page-Line Number of: Numéro de page-ligne de: **Z10.** Spouse / Partner Conjoint / partenaire	**Z11.** Mother Mere	**Z12.** Father Père
M F	M W/V Sep. Div. Single Cel.					
1 ○ 2 ○	3 ○ 4 ○ 5 ○ 6 ○		☐ If "0", specify - Si "0", précisez	1 ⎵ ⎵ 199 ○ n/a-s/o	2 ⎵ ⎵ 299 ○ n/a-s/o	3 ⎵ ⎵ 399 ○ n/a-s/o
4 ○ 5 ○	6 ○ 7 ○ 8 ○ 9 ○		☐ If "0", specify - Si "0", précisez	4 ⎵ ⎵ 499 ○ n/a-s/o	5 ⎵ ⎵ 599 ○ n/a-s/o	6 ⎵ ⎵ 699 ○ n/a-s/o
1 ○ 2 ○	3 ○ 4 ○ 5 ○ 6 ○		☐ If "0", specify - Si "0", précisez	1 ⎵ ⎵ 199 ○ n/a-s/o	2 ⎵ ⎵ 299 ○ n/a-s/o	3 ⎵ ⎵ 399 ○ n/a-s/o
4 ○ 5 ○	6 ○ 7 ○ 8 ○ 9 ○		☐ If "0", specify - Si "0", précisez	4 ⎵ ⎵ 499 ○ n/a-s/o	5 ⎵ ⎵ 599 ○ n/a-s/o	6 ⎵ ⎵ 699 ○ n/a-s/o
1 ○ 2 ○	3 ○ 4 ○ 5 ○ 6 ○		☐ If "0", specify - Si "0", précisez	1 ⎵ ⎵ 199 ○ n/a-s/o	2 ⎵ ⎵ 299 ○ n/a-s/o	3 ⎵ ⎵ 399 ○ n/a-s/o
4 ○ 5 ○	6 ○ 7 ○ 8 ○ 9 ○		☐ If "0", specify - Si "0", précisez	4 ⎵ ⎵ 499 ○ n/a-s/o	5 ⎵ ⎵ 599 ○ n/a-s/o	6 ⎵ ⎵ 699 ○ n/a-s/o
1 ○ 2 ○	3 ○ 4 ○ 5 ○ 6 ○		☐ If "0", specify - Si "0", précisez	1 ⎵ ⎵ 199 ○ n/a-s/o	2 ⎵ ⎵ 299 ○ n/a-s/o	3 ⎵ ⎵ 399 ○ n/a-s/o
4 ○ 5 ○	6 ○ 7 ○ 8 ○ 9 ○		☐ If "0", specify - Si "0", précisez	4 ⎵ ⎵ 499 ○ n/a-s/o	5 ⎵ ⎵ 599 ○ n/a-s/o	6 ⎵ ⎵ 699 ○ n/a-s/o

RECORD OF CALLS - REGISTRE DES APPELS

10	11 Date		12 Start Début		13 Finish Fin		14 Result Résultat	15 Interviewer's Name Nom de l'intervieweur	16 Comments Remarques
	Day Jour	Month Mois	Hour Heure	Min. Min.	Hour Heure	Min. Min.			
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If the last call to the household is recorded on this page, transcribe the information for this call to line 99 on page 1.

Si le dernier appel effectué pour ce ménage est enregistré sur cette page, veuillez transcrire l'information relative à cet appel à la ligne 99 de la page 1.

Housing, Family and Social Statistics Division

General Social Survey Health Questionnaire

Ages 15 years and over

Confidential when completed

Collected under the authority of the Statistics Act, Revised Statutes of Canada, 1985, Chapter S19

1 [ ][ ][ ] - [ ][ ][ ] - [ ][ ][ ][ ] **Telephone Number**

5 [ ][ ][ ][ ][ ][ ] **Label Identification Number**

[ ][ ] **Page-Line Number**

[1] **Type**

Name of Interviewer

Proxy/Non-proxy

3 ○ Non-proxy ⟶ Go to A1

4 ○ Proxy due to illness or disability

5 ○ Proxy due to language problems

6 [ ][ ] Page-line number of person who provided the proxy interview

GSS 6-2

Interviewer: *Complete at end of interview*

Describe reason for proxy interview

8-4500-55.1: 1990-11-09 STC/HFS-027-04085

Statistics Canada Statistique Canada

Canada

Section A: Health Status

A1. *INTERVIEWER:*
Repeat the introduction below if the selected respondent is different from household respondent.

Hello, I'm . . . . from Statistics Canada. I'm calling you for a survey on the health of Canadians.

All the information we collect in this voluntary survey will be kept strictly confidential. Your participation is essential if the survey results are to be accurate.

A2. Compared to other people your age, how would you describe your state of health? Would you say it was . . .

- **Excellent?** 5○
- **Very Good?** 6○
- **Good?** 7○
- **Fair?** 8○
- **Poor?** 9○

A3. ◆ **When did you last have your blood pressure checked by a doctor or nurse?**

- Within the last 6 months 1○
- 7 to 12 months ago 2○
- 13 to 24 months ago 3○
- More than 2 years ago 4○
- Never 5○ → *Go to A6*
- Don't know 6○
- Refused 7○ → *Go to A6*

A4. Have you ever been told by a doctor or nurse that you have high blood pressure? *(For women add:* **except when you were pregnant)**

- Yes 7○
- No 8○ } *Go to A6*
- Don't know 9○ } *Go to A6*

A5. Has any medication or treatment such as a change in diet ever been prescribed for your high blood pressure?

- Yes 1○
- No 2○
- Don't know 3○

A6. ◆ **Have you ever had trouble with your heart, such as heart attack, angina, heart failure or rheumatic heart disease?**

- Yes 4○
- No 5○ } *Go to A8*
- Don't know 6○ } *Go to A8*
- Refused 7○ } *Go to A8*

A7. At what age were you first diagnosed?

|_|_| years of age

- Never diagnosed 96○
- Don't know 98○

A8. ◆ **Do you have diabetes?**

- Yes 1○
- No 2○ } *Go to A10*
- Don't know 3○ } *Go to A10*
- Refused 4○ } *Go to A10*

A9. At what age were you first diagnosed?

|_|_| years of age

- Never diagnosed 96○
- Don't know 98○

A10. Do you have:

	Yes	No	Don't know
a) **Arthritis, rheumatism or bursitis?**	01○	02○	03○
b) **Asthma?**	04○	05○	06○
c) **Emphysema, chronic bronchitis, persistent cough or shortness of breath?**	07○	08○	09○
d) **Hay fever?**	10○	11○	12○
e) **Skin or other allergies?**	13○	14○	15○
f) **Stomach ulcer?**	16○	17○	18○
g) **Other digestive problems?**	19○	20○	21○
h) **Recurring migraine headaches?**	22○	23○	24○
i) **High blood cholesterol?**	25○	26○	27○
j) **Any emotional disorders?**	28○	29○	30○

Section B: Two-Week Disability

B1. During the last two weeks, was your main activity working, going to school, keeping house, retired or something else? *(Note: If sickness or short-term illness is reported, ask for usual main activity)*

- Working 4○
- Going to school 5○
- Keeping house 6○
- Retired 7○
- Other (vacation, maternity/paternity leave, long term illness, etc.) 8○ ↓ *(Specify)*

|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

B2. ◆ **During those 14 days, did you stay in bed at all because of your health, including any nights spent as a patient in a hospital?**

- Yes 1○
- No 2○ } *Go to B7*
- Refused 3○ } *Go to B7*

B3. **How many days did you stay in bed for all or most of the day?**

|_|_| bed days

Part of a day ..... 96○

B4. *Interviewer Check Item:*

Review B1.

Was the respondent...

Working? ..... 4○

Going to school? ..... 5○

Keeping house? ..... 6○

Retired? ..... 7○

Other/Refused ..... 8○ } *Go to B6*

B5. **On how many of those days would you normally have....**

worked?

gone to school?

done housework?

|_|_| activity loss-bed days

B6. **Not counting days spent in bed, did you cut down on things you normally do during the day because of your health?**

Yes ..... 1○ → *Go to B8*

No ..... 2○

Refused ..... 3○ } *Go to B11*

B7. **(During those 14 days) Did you cut down on things you normally do during the day because of your health?**

Yes ..... 4○

No ..... 5○

Refused ..... 6○ } *Go to B11*

B8. **How many days did you cut down for all or most of the day?**

|_|_| cut-down days

Part of a day ..... 96○

B9. *Interviewer Check Item:*

Review B1.

Was the respondent...

Working? ..... 1○

Going to school? ..... 2○

Keeping house? ..... 3○

Retired? ..... 4○

Other/Refused ..... 5○ } *Go to B11*

B10. **On how many of those days were you not able to...**

work?

go to school?

do housework?

|_|_| activity loss-cut down days

B11. **During those 14 days, did you see or talk to a medical doctor about your health?**

Yes ..... 6○

No ..... 7○

Refused ..... 8○ } *Go to C1*

B12. **What was the main reason for this contact?**

Illness or health problem ..... 1○

Medical check-up ..... 2○

Shots, inoculations or vaccination ..... 3○

Pre or post-natal care ..... 4○

Other ..... 5○

(Specify)

|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

Section C: 12 Month Health Care Contacts

C1. **During the past 12 months, how many times did you see or talk to a...**

	Times	None
a) **Family doctor or general practitioner about your own health?**	1 |_|_|	or 100○
What about a...		
b) **Medical specialist?**	2 |_|_|	or 200○
c) **Dentist?**	3 |_|_|	or 300○
d) **Nurse (excluding making appointments?)**	4 |_|_|	or 400○
e) **Optometrist or optician?**	5 |_|_|	or 500○
f) **Chiropractor?**	6 |_|_|	or 600○
g) **Psychologist, social worker, or counsellor?** ...	7 |_|_|	or 700○
h) **Physiotherapist?**	8 |_|_|	or 800○
i) **Any other health care professional?**	9 |_|_|	or 900○

(Specify)

|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

C2. **Did you spend any nights as a patient in a hospital, nursing home or convalescent home during the last 12 months?**

Yes . . . [1]○ → C2A. **How many nights?** ☐☐☐ patient nights

No . . . [2]○

C3. ◆ **Over the past 12 months, have you experienced any delays in obtaining health care?**

Yes . . . . . [3]○

No . . . . . [4]○

Refused . . . . . [5]○ } *Go to D1*

C4. **For which type of medical service did the delay occur?** *(Note: if more than one delay, ask about most recent)*

Hospital emergency room treatment . . . . . [1]○

Medical appointment with a general practitioner . [2]○

Medical appointment with a specialist . . . . . [3]○

Hospital admission for surgery . . . . . [4]○

Hospital admission for other treatment . . . . . [5]○

Nursing home or long-term care facility . . . . . [6]○

Diagnostic test (eg. blood test, x-rays) . . . . . [7]○

Other medical treatment . . . . . [8]○

↓ *(Specify)*

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C5. **How long was this delay?**

1 ☐☐ Hours 2 ☐☐ Days 3 ☐☐ Weeks

Section D: Flu Shots

D1. **Did your doctor or nurse recommend that you get a flu shot during the fall or winter of 1990-1991?**

Yes . . . . . [4]○

No . . . . . [5]○

D2. Comment: This vaccination is usually given in the fall and protects against influenza for about one year.

D3. ◆ **Did you have a flu shot during the fall or winter of 1990-1991?**

Yes . . . . . [6]○ → *Go to E1*

No . . . . . [7]○

Don't know . . . . . [8]○

Refused . . . . . [9]○ } *Go to E1*

D4. **Why did you not have a flu shot?**

(Mark all that apply.)

- My doctor never mentioned it. . . . . [01]○
- My doctor didn't think it was necessary. . . . [02]○
- I never thought about it. . . . . [03]○
- Flu is not that serious. . . . . [04]○
- I haven't heard about it. . . . . [05]○
- Too busy: never got around to it. . . . . [06]○
- I hardly ever get the flu. . . . . [07]○
- Fear of side effects. . . . . [08]○
- I feel the flu shot doesn't work. . . . . [09]○
- I feel it costs too much. . . . . [10]○
- Other . . . . . [11]○

↓ *(Specify)*

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- Don't know *(Probe for a reason)* . . . . . [12]○

Section E: Health Status Indicators

E1. **The next set of questions ask about your day to day health. You may feel that some of these questions do not apply to you but it is important that we ask the same questions of everyone.**

Vision

E2. ◆ **Are you usually able to see well enough to read ordinary newsprint without glasses or contact lenses?**

Yes . . . . . [1]○ → *Go to E5*

No . . . . . [2]○

Refused . . . . . [3]○ → *Go to E7*

E3. **Can you see well enough to read ordinary newsprint with glasses or contact lenses?**

Yes . . . . . [4]○ → *Go to E5*

No . . . . . [5]○

Don't know (Don't wear glasses or contacts) . . . . . [6]○

E4. **Can you see at all?**

Yes . . . . . [7]○

No . . . . . [8]○ → *Go to E7*

E5. **Can you see well enough to recognize a friend on the other side of the street without glasses or contact lenses?**

Yes . . . . . [1]○ → *Go to E7*

No . . . . . [2]○

E6. **Can you see well enough to recognize a friend on the other side of the street with glasses or contact lenses?**

Yes ... 3○

No ... 4○

Don't know (Don't wear glasses or contacts) ... 5○

Hearing

E7. ◆ **Are you usually able to hear what is said in a group conversation with at least three other people without a hearing aid?**

Yes ... 1○ → *Go to E11*

No ... 2○

Refused ... 3○ → *Go to E11*

E8. **Can you hear what is said in a group conversation with at least three other people with a hearing aid?**

Yes ... 4○

No ... 5○

Don't know (Don't wear a hearing aid) ... 6○

E9. **Can you hear what is said in a conversation with one other person in a quiet room without a hearing aid?**

Yes ... 7○ → *Go to E11*

No ... 8○

E10. **Can you hear what is said in a conversation with one other person in a quiet room with a hearing aid?**

Yes ... 1○

No ... 2○

Don't know (Don't wear a hearing aid) ... 3○

Speech

E11. ◆ **Are you usually able to be understood completely when speaking with strangers in your own language?**

Yes ... 4○ → *Go to E16*

No ... 5○

Refused ... 6○ → *Go to E16*

E12. **Are you able to be understood partially when speaking with strangers?**

Yes ... 7○

No ... 8○

E13. **Are you able to be understood completely when speaking with those who know you well?**

Yes ... 1○ → *Go to E16*

No ... 2○

E14. **Are you able to be understood partially when speaking with those who know you well?**

Yes ... 3○

No ... 4○

Getting Around

E15. *INTERVIEWER:*

If a respondent says "sometimes" to any of the following questions, E16-E20 and E22, please prompt with "Is that usually?" If it is not, mark No.

E16. ◆ **Are you able to walk around the neighbourhood without difficulty and without mechanical support such as braces, a cane or crutches?**

Yes ... 5○ → *Go to E23*

No ... 6○

Refused ... 7○ → *Go to E23*

E17. **Can you walk at all?**

Yes ... 8○

No ... 9○ → *Go to E20*

E18. **Do you require mechanical support such as braces, cane or crutches to walk around the neighbourhood?**

Yes ... 1○

No ... 2○

E19. **Do you require the help of another person to walk?**

Yes ... 3○

No ... 4○

E20. **Do you require a wheelchair to get around?**

Yes ... 5○

No ... 6○ → *Go to E23*

E21. **How often do you use a wheelchair...**

Always? ... 1○

Often? ... 2○

Sometimes? ... 3○

Never ... 4○

E22. **Do you need the help of another person to get around in the wheelchair?**

Yes ... 5○

No ... 6○

Hands and Fingers

E23. ◆ **Do you usually have the full use of two hands and ten fingers?**

Yes ... 7○ → *Go to E27*

No ... 8○

Refused ... 9○ → *Go to E27*

E24. **Do you require the help of another person because of limitations in the use of your hands and fingers?**

Yes ... 1○

No ... 2○ → *Go to E26*

E25. **Do you require the help of another person with ...**

Some tasks? ..... 3○

Most tasks? ..... 4○

Almost all tasks? ..... 5○

All tasks? ..... 6○

E26. **Do you require special equipment, for example, devices to assist in dressing, because of limitations in the use of your hands or fingers?**

Yes ..... 7○

No ..... 8○

Feelings

E27. **Would you describe yourself as usually...**

Happy and interested in life? ..... 1○

Somewhat happy? ..... 2○

Somewhat unhappy? ..... 3○

Very unhappy? ..... 4○

No opinion ..... 5○

Memory

E28. **How would you describe your usual ability to remember things...**

Able to remember most things? ..... 6○

Somewhat forgetful? ..... 7○

Very forgetful? ..... 8○

Unable to remember anything at all? ..... 9○

Thinking

E29. **How would you describe your usual ability to think and solve day to day problems...**

Able to think clearly and solve problems? ..... 1○

Having a little difficulty? ..... 2○

Having some difficulty? ..... 3○

Having a great deal of difficulty? ..... 4○

Unable to think or solve problems? ..... 5○

Pain and Discomfort

E30. ◆ **In general, do you have any trouble with pain or discomfort?**

Yes ..... 6○

No ..... 7○ } *Go to F1*

Refused ..... 8○ }

E31. **How would you describe you usual intensity of pain or discomfort...**

Mild? ..... 1○

Moderate? ..... 2○

Severe? ..... 3○

E32. **How many activities does your pain and discomfort prevent...**

None? ..... 4○

A few? ..... 5○

Some? ..... 6○

Most? ..... 7○

Section F: Limitations

F1. ◆ **Are you limited in the amount or kind of activity you can do at home, at work or at school because of a long term physical condition or health problem?**

Yes ..... 1○

No ..... 2○ } *Go to G1*

Refused ..... 3○ }

F2. **How are you limited?** *(Note: record limitation not problem)*

F3. **What is the main health problem which caused this limitation?**

Section G: Physical Condition and Activity

G1. **The next few questions concern your physical condition and physical activity.**

G2. **How tall are you without your shoes on?**

4 Feet | Inches or 5 Centimetres

Don't know ..... 9998○

G3. **How much do you weigh?**

1 Pounds or 2 Kilograms

Don't know ..... 9998○

G4. **Do you consider yourself to be...**

Overweight? ..... 1○

Underweight? ..... 2○

Just about right? ..... 3○

G5. **I am now going to ask you questions about the amount of time you spend on physical activity at work or while doing your daily chores, but not leisure time activity.**

A. **How many hours per day do you usually spend standing or walking but not carrying or lifting things. Would that be...**

None? 01○

Less than 15 minutes? 02○

15 minutes to less than 2 hours? 03○

Two to less than 4 hours? 04○

Four to less than 6 hours? 05○

Six hours or more? 06○

Don't know 07○

B. **How many hours per day do you usually spend lifting or carrying light loads, climbing stairs or hills? Would that be...**

None? 08○

Less than 15 minutes? 09○

15 minutes to less than 2 hours? 10○

Two to less than 4 hours? 11○

Four to less than 6 hours? 12○

Six hours or more? 13○

Don't know 14○

C. **How many hours per day do you usually spend doing heavy work or carrying very heavy loads? Would that be...**

None? 15○

Less than 15 minutes? 16○

15 minutes to less than 2 hours? 17○

Two to less than 4 hours? 18○

Four to less than 6 hours? 19○

Six hours or more? 20○

Don't know 21○

G6. **I am now going to ask you questions about the amount of time you spent on leisure time physical activity such as walking, sports, gardening or dancing during the last month.**

A. **Thinking back over the past month, how many hours per week did you spend on light physical activity so that your breathing was only a little faster than normal? Would that be...**

None? 22○

Less than one hour? 23○

One hour to less than 2 hours? 24○

Two hours to less than 3 hours? 25○

Three hours or more? 26○

Don't know 27○

B. **Thinking back over the past month, how many hours per week did you spend on moderate physical activity where your breathing was a lot faster than normal but talking was still possible? Would that be...**

None? 28○

Less than one hour? 29○

One hour to less than 2 hours? 30○

Two hours to less than 3 hours? 31○

Three hours or more? 32○

Don't know 33○

C. **Thinking back over the past month, how many hours per week did you spend on vigorous physical activity where your breathing was so fast that talking was very difficult or almost impossible? Would that be...**

None? 34○

Less than one hour? 35○

One hour to less than 2 hours? 36○

Two hours to less than 3 hours? 37○

Three hours or more? 38○

Don't know 39○

G7. **Overall, do you consider the amount of physical activity you usually get to be...**

Too much? 7○

Too little? 8○

The right amount? 9○

Section H: Sleep

H1. Comment: Recent studies have shown that the amount of sleep a person gets may be related to their health.

H2. **How long do you usually spend sleeping each night? (Do not include time spent resting.)**

|_|_| hours |_|_| minutes

Don't know 9998○

H3. **Do you regularly have trouble going to sleep or staying asleep?**

Yes 1○

No 2○

H4. **How often do you find your sleep refreshing?**

Most of the time? 3○

Sometimes? 4○

Never? 5○

H5. **How often do you find it difficult to stay awake when you want to?**

Most of the time? 6○

Sometimes? 7○

Never? 8○

Section J: Smoking

J1. **The next questions are about cigarette smoking.**

J2. **Do you smoke cigarettes...**

◆

Daily? ..... 1○

Occasionally? ..... 2○ } *Go to J5*

Not at all? ..... 3○ }

Refused? ..... 4○ → *Go to J8*

J3. **About how many cigarettes do you smoke each day?**

5 | | | daily cigarettes

J4. **At what age did you start smoking daily?**

6 | | | years of age → *Go to J8*

J5. **Have you ever smoked cigarettes daily?**

◆

Yes ..... 7○

No ..... 8○ } *Go to J8*

Refused ..... 9○ }

J6. **At what age did you start smoking daily?**

1 | | | years of age

J7. **At what age did you last stop smoking daily?**

2 | | | years of age

J8. **How many people in your household, excluding yourself, smoke cigarettes daily?**

3 | | | number of household smokers

Don't know ..... 398○

Section K: Alcohol

K1. **Now I would like to ask you some questions about alcohol consumption.**

When we use the word drink it means:

– One beer

– One small glass of wine

– 1 1/2 ounces of liquor

K2. **Have you ever taken a drink?**

◆

Yes ..... 4○

No ..... 5○ } *Go to M1*

Refused ..... 6○ }

K3. **In the last 12 months, have you taken a drink?**

◆

Yes ..... 7○

No ..... 8○ } *Go to M1*

Refused ..... 9○ }

K4. **In the past 12 months, how often on average, did you drink alcoholic beverages?**

Was it...

Every day? ..... 1○

4-6 times a week? ..... 2○

2-3 times a week? ..... 3○

Once a week? ..... 4○

Once or twice a month? ..... 5○

Less often than once a month? 6○

Don't know ..... 7○

K5. **In the past seven days, have you taken a drink?**

◆

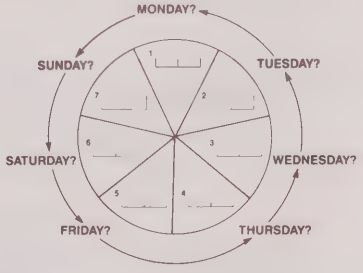
Yes ..... 7○

No ..... 8○ } *Go to M1*

Refused ..... 9○ }

K6. **Beginning with yesterday, how many drinks did you have on each of the last 7 days?**

(Interviewer: enter 00 on the days respondent had no drinks)



Section M: Occupation and Health

M1. **During the past 12 months, what best describes your MAIN activity? Were you mainly ...**

◆

Working at a job or business? 1○ → *Go to M12*

Looking for work? ..... 2○ → *Go to M3*

A student? ..... 3○

Keeping house? ..... 4○ }

Retired? ..... 5○ } *Go to M3*

Other ..... 6○ }

(Specify)

Refused ..... 7○ → *Go to M3*

M2. **Were you studying full-time or part-time?**

Full-time ..... 8○

Part-time ..... 9○

M3. **Did you have a job or were you self-employed at any time during the past 12 months?**

Yes . . . . . 1○ → *Go to M12*

No . . . . . 2○

Refused . . . . . 3○ → *Go to M6*

M4. **Did you look for a job in the last four weeks?**

Yes . . . . . 4○

No . . . . . 5○ } *Go to M6*

Refused . . . . . 6○ }

M5. **How long have you been looking for a job?**

[ ][ ][ ] weeks

M6. **Have you ever worked at a job, business or been self-employed?**

Yes . . . . . 7○

No . . . . . 8○ } *Go to M40*

Refused . . . . . 9○ }

M7. **What kind of work did you do for the longest time?** *(Give full description: e.g. accounts clerk, dairy farmer, primary school teacher)*

[ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

[ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

[ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

[ ][ ][ ][ ][ ][ ][ ][ ]

Refused . . . . . 1○ → *Go to M11*

M8. **For how many years did you do this kind of work?**

[ ][ ] years

M9. **For whom did you work?** *(Name of business, government department or agency, or person).*

[ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

[ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

[ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

[ ][ ][ ][ ][ ][ ][ ][ ]

M10. **What kind of business, industry or service was this?** *(Give full description: e.g. paper box manufacturing, retail shoe store, municipal board of education)*

[ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

[ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

[ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

[ ][ ][ ][ ][ ][ ][ ][ ]

M11. **In what year did you last work?**

[1][9][ ][ ] → *Go to M40*

M12. **Did you do any work at a job or business last week?**

Yes . . . . . 2○ → *Go to M16*

No . . . . . 3○

Refused . . . . . 4○ → *Go to M16*

M13. **Last week, did you have a job to which you expected to return?**

Yes . . . . . 5○ → *Go to M16*

No . . . . . 6○

M14. **Did you look for a job in the last four weeks?**

Yes . . . . . 7○

No . . . . . 8○ } *Go to M16*

Refused . . . . . 9○ }

M15. **How long have you been without a job and looking for one?**

[ ][ ][ ] weeks

Employment

M16. **For how many weeks during the past 12 months were you employed or self-employed. Include vacation, illness, strikes, lock- outs and maternity/paternity leave.**

[2][ ][ ] weeks

M17. **During those weeks, how many hours per week did you usually work?** *(Include all jobs)*

[3][ ][ ] hours

M18. **Which of the following best describes the hours you usually worked . . .**

Regular day time schedule? . . 4○

Regular afternoon or evening schedule? . . . . . 5○ } *Go to M20*

Regular night shift? . . . . . 6○ }

Rotating shift? (One that changes periodically)? . . . . . 7○

Other . . . . . 8○

M19. **How often did you work a night shift? Was it . . .**

Regularly? . . . . . 1○

Sometimes? . . . . . 2○

Never? . . . . . 3○

M20. **For whom did you work for the longest time during the past 12 months?** *(Name of business, government department or agency, or person).*

[ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

[ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

[ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

[ ][ ][ ][ ][ ][ ][ ][ ]

M21. **What kind of business, industry or service was this?** *(Give full description: e.g. paper box manufacturing, retail shoe store, municipal board of education)*

M22. **What kind of work were you doing?** *(Give full description: e.g. accounts clerk, dairy farmer, primary school teacher)*

M23. **In that job, were you a paid worker or self-employed?**

- Paid worker ..... 4 ○
- Self-employed ..... 5 ○
- Other (e.g. unpaid family worker) 6 ○

Go to M27

Job Benefits

M24. Comment: These questions refer to the job you just described. Include benefits that are either provided entirely by your employer or that are cost shared between you and the employer.

M25. **Does/Did your employer provide you with a ...**

a) **Retirement pension plan (in addition to the Canada Pension Plan or Quebec Pension Plan contribution required of employers)?**

- Yes ..... 7 ○
- No ..... 8 ○
- Don't know ..... 9 ○

b) **Disability insurance to replace at least part of your earnings in the event you become disabled (in addition to the disability benefits of the Canada Pension Plan or Quebec Pension Plan)?**

- Yes ..... 1 ○
- No ..... 2 ○
- Don't know ..... 3 ○

c) **Survivor benefits for your family in the event of your death (in addition to those provided by the Canada Pension Plan or the Quebec Pension Plan)?**

- Yes ..... 4 ○
- No ..... 5 ○
- Don't know ..... 6 ○

d) **Medical/surgical benefits beyond those provided by your provincial health care system?**

- Yes ..... 7 ○
- No ..... 8 ○
- Don't know ..... 9 ○

e) **Dental Care Benefits?**

- Yes ..... 1 ○
- No ..... 2 ○
- Don't know ..... 3 ○

f) **Counselling or referral services for personal problems?**

- Yes ..... 4 ○
- No ..... 5 ○
- Don't know ..... 6 ○

g) **Paid maternity or paternity leave, in addition to the benefits provided by Unemployment Insurance?**

- Yes ..... 7 ○
- No ..... 8 ○
- Don't know ..... 9 ○

M26. **Are you a member of a labour union?**

- Yes ..... 1 ○
- No ..... 2 ○

Occupational Health

M27. **In the past 12 months, did you ever suffer a workplace injury or illness?** ◆

- Yes ..... 3 ○
- No ..... 4 ○
- Refused ..... 5 ○

Go to M29

M28. **How many days of work did you miss as a result?**

6 | | | missed work days

M29. **In total, during the past 12 months, how many days did you miss from work due to any illness or injury? Exclude vacations, holidays, strikes, lockouts and maternity/parternity leave.**

7 | | | missed work days

M30. **Have any of the following things in your work environment caused you excess worry or stress in the past 12 months...**

	Yes	No
(a) **Too many demands or too many hours of work?**	01 ○	02 ○
(b) **Risk of accident or injury?**	03 ○	04 ○
(c) **Poor interpersonal relations?**	05 ○	06 ○
(d) **Sexual harassment?**	07 ○	08 ○
(e) **Other harassment?**	09 ○	10 ○
(f) **Discrimination of any kind?** *(age, sex race ethnicity/disability/sexual orientation)*	11 ○	12 ○
(g) **Threat of layoff or job loss?**	13 ○	14 ○
(h) **Other?**	15 ○	16 ○

↓ *(Specify)*

M31. *Interviewer Check Item:*

Review M30.

Are any of the responses Yes?

Yes . . . . . 1 ○

No/Refused . . . . . 2 ○ → *Go to M34*

M32. **Did you do anything to improve the situation?**

Yes . . . . . 3 ○

No . . . . . 4 ○ } *Go to M34*

Refused . . . . . 5 ○ }

M33. **What did you do?** *(Mark all that apply)*

- Resigned without having another job lined up 1 ○
- Transferred to a less stressful or less physically demanding job with the same employer . . 2 ○
- Changed to a less stressful or less physically demanding job with a different employer . . . 3 ○
- Reduced regular hours of work . . . . . 4 ○
- Changed from full-time to part-time . . . . . 5 ○
- Took a leave of absence or sabbatical without pay . . . . . 6 ○
- Took a retirement pension beginning before age 65 . . . . . 7 ○
- Changed attitude/learned to relax . . . . . 8 ○
- Other . . . . . 9 ○

↓ *(Specify)*

M34-M39. **Over the past 12 months, did your job ever expose you to...**

		(A) No	Yes	(B) **How often? Was it...**	(C) **Do you feel this has a negative impact on your health?** *(Outcome may be later)* Yes	No
M34.	**Dust or fibres in the air?**	01 ○	02 ○ →	**Most of the time?** 03 ○ **Sometimes?** 04 ○ **Rarely?** 05 ○	06 ○	07 ○
M35.	**Dangerous chemicals or fumes?**	08 ○	09 ○ →	**Most of the time?** 10 ○ **Sometimes?** 11 ○ **Rarely?** 12 ○	13 ○	14 ○
M36.	**Loud noise?**	15 ○	16 ○ →	**Most of the time?** 17 ○ **Sometimes?** 18 ○ **Rarely?** 19 ○	20 ○	21 ○
M37.	**Computer screens or display terminals?**	22 ○	23 ○ →	**Most of the time?** 24 ○ **Sometimes?** 25 ○ **Rarely?** 26 ○	27 ○	28 ○
M38.	**Poor quality air?**	29 ○	30 ○ →	**Most of the time?** 31 ○ **Sometimes?** 32 ○ **Rarely?** 33 ○	34 ○	35 ○
M39.	**Any other dangers?**	36 ○	37 ○ → ↓ *(Specify)*	**Most of the time?** 38 ○ **Sometimes?** 39 ○ **Rarely?** 40 ○	41 ○	42 ○

M40. *Interviewer Check Item:*

Review GSS 6-1 (B), item Z7 for respondent only.

Is the respondent living with his/her spouse or partner?

Yes . . . . . 1 ○

No/Refused . . . . . 2 ○ → *Go to N1*

M41. **During the past 12 months, what best describes your spouse's MAIN activity? Was he/she mainly . . .**

Working at a job or business? 3 ○

Looking for work? . . . . . 4 ○

A student? . . . . . 5 ○

Keeping house? . . . . . 6 ○ } *Go to N1*

Retired? . . . . . 7 ○

Other . . . . . 8 ○

(Specify)

Refused . . . . . 9 ○ → *Go to N1*

M42. **Was he/she working full-time or part-time?**

Full-time . . . . . 1 ○

Part-time . . . . . 2 ○

Section N: Satisfaction

N1. **Now some general questions.**

N2. **Are you satisfied or dissatisfied with . . .**

			Is that somewhat or very?	
			Somewhat	Very
a) **Your health?**	Satisfied	01 ○ →	02 ○	03 ○
	Dissatisfied	04 ○ →	05 ○	06 ○
	No opinion	07 ○		
b) **Your job or main activity?**	Satisfied	08 ○ →	09 ○	10 ○
	Dissatisfied	11 ○ →	12 ○	13 ○
	No opinion	14 ○		
c) **Your life in general?**	Satisfied	15 ○ →	16 ○	17 ○
	Dissatisfied	18 ○ →	19 ○	20 ○
	No opinion	21 ○		

N3. **Would you describe your life as . . .**

Very stressful? . . . . . 3 ○

Somewhat stressful? . . . . . 4 ○

Not very stressful? . . . . . 5 ○

Not at all stressful? . . . . . 6 ○

No opinion . . . . . 7 ○

Section P: Emotional Well-Being

P1. **Here is a list that describes some of the ways people feel at different times. During the past few weeks, how often have you felt . . .**

	Often	Sometimes	Never
a) **On top of the world? Was it**	01 ○	02 ○	03 ○
b) **Very lonely or remote from other people?** . . .	04 ○	05 ○	06 ○
c) **Particularly excited or interested in something?**	07 ○	08 ○	09 ○
d) **Depressed or very unhappy?**	10 ○	11 ○	12 ○
e) **Pleased about accomplishing something?** . .	13 ○	14 ○	15 ○
f) **Bored?**	16 ○	17 ○	18 ○
g) **Proud because someone complimented you on something you had done?**	19 ○	20 ○	21 ○
h) **So restless you couldn't sit long in a chair?** . . .	22 ○	23 ○	24 ○
i) **That things were going your way?**	25 ○	26 ○	27 ○
j) **Upset because someone criticized you?**	28 ○	29 ○	30 ○

Section Q: Classification

Q1. **In what type of dwelling are you now living?**

Is it a . . .

Single detached house? . . . . . 1 ○

Low-rise apartment of less than 5 stories? . . . . 2 ○

High-rise apartment of 5 or more stories? . . . . . 3 ○

Other . . . . . 4 ○

Q2. Comment: We ask about mortgages because, as an expense, they are a good indicator of an individual's or family's overall economic situation.

Q3. **Is this dwelling owned by a member of this household?**

Yes . . . . . 5 ○ → Q3A. **Is there a mortgage on this dwelling?**

No . . . . . 6 ○

Yes . . . . . 7 ○

No . . . . . 8 ○

Don't know . . . . . 9 ○

Q4. **What is your postal code?**
(Note: of residence)

Don't know . . . . . 1 ○

Q5. **Do you have more than one telephone in your home?**

Yes . . . . . 2 ○

No . . . . . 3 ○ → *Go to Q11*

Q6. Do all the telephones have the same number?

Yes . . . . 4○ → *Go to Q11*

No . . . . 5○

Q7. Comment: Households with more than one telephone number have a greater chance of being selected by the survey. We ask these questions to adjust for this.

Q8. How many different numbers are there?

|_|_|

Q9. Are any of these numbers for business use only?

Yes . . . . 6○

No . . . . 7○ → *Go to Q11*

Q10 How many are for business use only?

|_|_| business numbers

Q11. In what country were you born?

Canada 1○ – **In which province or territory?**

- Newfoundland/Labrador . 01○
- Prince Edward Island . . 02○
- Nova Scotia . . . . 03○
- New Brunswick . . . . . . 04○
- Quebec . . . . 05○
- Ontario . . . . 06○
- Manitoba . . . . 07○
- Saskatchewan . . . . 08○
- Alberta . . . . 09○
- British Columbia . . . . . . 10○
- Yukon Territory . . . . . . 11○
- Northwest Territories . . . 12○

} *Go to Q13*

Country outside Canada 2○ → *Specify*

- England . . . . 13○
- United States . . . . 14○
- Germany . . . . 15○
- Scotland . . . . 16○
- Italy . . . . 17○
- Poland . . . . 18○
- China . . . . 19○
- India . . . . 20○
- USSR . . . . 21○
- Philippines . . . . 22○
- Other . . . . 23○

↓ *(Specify)*

|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

Q12. In what year did you first immigrate to Canada?

|1|_|_|_|

Canadian citizen by birth . . . . 996○

Q13. What is your date of birth?

◆

|_|_| Day |_|_| Month |1|_|_|_| Year

Refused . . . . 8○ → *Go to Q15*

Q14. *Interviewer Check Item:*

Review year of birth in Q13.

Is year 1940 or earlier?

Yes . . . . 1○

No . . . . 2○ → *Go to Q16*

Q15. Did you have any war time service in the active military forces of Canada or its allied forces?

Yes . . . . 3○ → Q15A. **Which conflict or war?** *(Mark all that apply)*

- World War I . . . . . 5○
- World War II . . . . 6○
- Korean conflict . . . 7○
- Other . . . . 8○

No . . . . 4○

Q16. What language did you first speak in childhood? *(Accept multiple responses only if languages were used equally)*

		Do you still understand that/those language(s)? Yes	No
English	01○		
French	02○ →	23○	24○
Italian	03○ →	25○	26○
German	04○ →	27○	28○
Ukrainian	05○ →	29○	30○
Dutch	06○ →	31○	32○
Chinese	07○ →	33○	34○
Hungarian	08○ →	35○	36○
Portuguese	09○ →	37○	38○
Polish	10○ →	39○	40○
Other	11○ →	41○	42○

↓ *(Specify)*

|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

Q17. **What language do you speak most often at home?** *(Accept multiple responses only if languages are spoken equally)*

English ... 34 ○
French ... 35 ○
Italian ... 36 ○
German ... 37 ○
Ukrainian ... 38 ○
Dutch ... 39 ○
Chinese ... 40 ○
Hungarian ... 41 ○
Portuguese ... 42 ○
Polish ... 43 ○
Other ... 44 ○ ↓ *(Specify)*

Q18. **Excluding kindergarten, how many years of elementary and high school education have you successfully completed?**

No schooling ... 45 ○ → *Go to Q22*
One to five years ... 46 ○
Six ... 47 ○
Seven ... 48 ○
Eight ... 49 ○
Nine ... 50 ○
Ten ... 51 ○
Go to Q20
Eleven ... 52 ○
Twelve ... 53 ○
Thirteen ... 54 ○

Q19. **Have you graduated from high school?**

Yes ... 1 ○
No ... 2 ○

Q20. **Have you had any further schooling beyond elementary/high school?**

Yes ... 3 ○
No ... 4 ○ → *Go to Q22*

Q21. **What is the highest level of education that you have attained?**

- Masters (M.A., M.Sc.,M.Ed.) or earned doctorate (Ph.D., D.Sc., D.Ed.) ... 1 ○
- Degree in Medicine, Dentistry, Veterinary Medicine, or Optometry (M.D., D.D.S., D.M.D., D.V.M., D.D.) ... 2 ○
- Bachelor or undergraduate degree, or teacher's college (e.g. B.A., B.Sc., B.A.Sc., LL.B) ... 3 ○
- Diploma or certificate from community college, CEGEP or nursing school ... 4 ○
- Diploma or certificate from trade, technical or vocational school, or business college ... 5 ○
- Some university ... 6 ○
- Some community college, CEGEP or nursing school ... 7 ○
- Some trade, technical or vocational school, or business college ... 8 ○
- Other ... 9 ○ ↓ *(Specify)*

Q22. **What, if any, is your religion?**

No religion ... 01 ○ → *Go to Q24*
Roman Catholic ... 02 ○
United Church ... 03 ○
Anglican ... 04 ○
Presbyterian ... 05 ○
Lutheran ... 06 ○
Baptist ... 07 ○
Eastern Orthodox ... 08 ○
Jewish ... 09 ○
Islam (Muslim) ... 10 ○
Buddhist ... 11 ○
Hindu ... 12 ○
Sikh ... 13 ○
Jehovah's Witnesses ... 14 ○
Other ... 15 ○ ↓ *(Specify)*

Q23. **Other than on special occasions, such as weddings, funerals or baptisms, how often did you attend services or meetings connected with your religion in the last 12 months? Was it . . .**

At least once a week? . . . . . 1 ○

At least once a month? . . . . . 2 ○

A few times a year? . . . . . 3 ○

At least once a year? . . . . . 4 ○

Not at all? . . . . . 5 ○

Q24. **The ancestors of Canadians come from many ethnic and cultural groups such as Inuit, French, Scottish and Chinese. To which ethnic or cultural group(s) did your ancestors belong?** *(Accept multiple responses)*

English . . . . . 01 ○

French . . . . . 02 ○

German . . . . . 03 ○

Scottish . . . . . 04 ○

Italian . . . . . 05 ○

Irish . . . . . 06 ○

Ukrainian . . . . . 07 ○

Chinese . . . . . 08 ○

Dutch (Netherlands) . . . . . 09 ○

Jewish . . . . . 10 ○

Polish . . . . . 11 ○

Black . . . . . 12 ○

North American Indian . . . . . 13 ○

Métis . . . . . 14 ○

Inuit/Eskimo . . . . . 15 ○

Other . . . . . 16 ○

(Specify)

Canadian (probe: **Any other group?**) . . . . . 17 ○

Don't know . . . . . 18 ○

Q25. ◆ **Are you currently receiving any income from a retirement pension, old age security or survivor benefits?**
(Exclude lump sum payments).

Yes . . . . . 6 ○

No . . . . . 7 ○

Refused . . . . . 8 ○

Go to Q27

Q26. **Are you receiving . . .**

	Yes	No
a) **Basic Old Age Security benefits paid by the Federal Government?**	01 ○	02 ○

These benefits are paid monthly by the Federal Government to all Canadians and Landed Immigrants who are 65 years of age of older and meet the minimum residency requirements. This benefit increases every 3 months in relation to the cost of living.

b) **Supplements to the Old Age Security pension: the Guaranteed Income Supplement or the Spouse's Allowance?**	03 ○	04 ○

The Guaranteed Income Supplement is paid by the Federal Government to Old Age Security Pensioners who have little or no income. The pensioner must reapply every year to receive it.

Spouse's Allowance is paid by the Federal Government if a person is between 60 and 65 years of age, has little or no income, and is widowed or is the spouse of a pensioner.

Both the Guaranteed Income Supplement and the Spouse's Allowance are increased every 3 months in relation to the cost of living.

c) **A retirement pension from Canada Pension Plan or Quebec Pension Plan?**	05 ○	06 ○

This pension is paid by the Federal or Quebec government to individuals who have contributed to the plan. Benefits usually begin when the individual reaches 65 years of age but may be applied for as early as 60 years of age. This pension is increased in January of each year in relation to the cost of living.

d) **A retirement pension from a former employer?**	07 ○	08 ○

This pension is paid by a former employer upon retirement. It may be a pension that was either cost shared with your employer or one provided entirely by your employer.

e) **A survivor benefit plan from the Canada Pension Plan or Quebec Pension Plan?**	09 ○	10 ○

This benefit is paid by the Federal or Quebec Government to surviving spouses of individuals who have contributed to the Canada or Quebec Pension Plan. An individual must apply for these benefits. This pension is increased in January of each year in relation to the cost of living.

f) **A survivor benefit plan from some source other than the Canada Pension Plan or Quebec Pension Plan?**	11 ○	12 ○

This benefit is paid by a source other than the Federal or Quebec government to a surviving spouse.

Q27. **Are you currently receiving any income from a disability pension.** *(Exclude lump sum payments)*

Yes . . . . . 1 ○

No . . . . . 2 ○ } *Go to Q30*

Refused . . . . . 3 ○ }

Q28. **Are you receiving . . .**

	Yes	No
a) **A disability pension from Canada Pension Plan or Quebec Pension Plan?**	4 ○	5 ○
This benefit is paid by the Federal or Quebec Government to individuals who become disabled and who have applied for a Canada or Quebec Pension Plan Disability Benefit. Beneficiaries must have contributed to the Canada or Quebec Pension Plan. These benefits are increased in January of each year in relation to the cost of living.		
b) **A disability pension from an employer benefit plan?**	6 ○	7 ○
This is a pension paid by a former employer as a result of a disability.		
c) **A disability pension from some source other than Canada Pension Plan, the Quebec Pension Plan or an employer benefit plan?**	8 ○	9 ○

Q29. Comment: Both individual and household income are needed to study the relationship between an individual's overall economic situation and his/her health.

Q30. **What is your best estimate of your own income from all sources, before deductions during the past 12 months?**

Was your income . . .

- **Less than $20,000?** 01 ○
  - **Less than $10,000?** 06 ○
    - **Less than $5,000?** 10 ○
    - **$5,000 and more?** 11 ○
  - **$10,000 and more?** 07 ○
    - **Less than $15,000?** 12 ○
    - **15,000 and more?** 13 ○
- **$20,000 and more?** 02 ○
  - **Less than $40,000?** 08 ○
    - **Less than $30,000?** 14 ○
    - **$30,000 and more?** 15 ○
  - **$40,000 and more?** 09 ○
    - **Less than $60,000?** 16 ○
    - **$60,000 to less than $80,000** 17 ○
    - **$80,000 and more?** 18 ○

No income . . 03 ○

Don't know . . 04 ○

Refused . . . . 05 ○

Q31. **Not including yourself, how many other people in your household received income from any source, during the past 12 months?**

[8] [ ] [ ] people

Q32. *Interviewer Check Item*

Review Q31.

Is Q31 = 00?

Yes . . . . . 1 ○ → *Go to R1*

No/Refused . . . . . 2 ○

Q33. **What is your best estimate of the total income of all household members from all sources during the past 12 months? Was the total household income . . .**

- **Less than $20,000?** 19 ○
  - **Less than $10,000?** 24 ○
    - **Less than $5,000?** 28 ○
    - **$5,000 and more?** 29 ○
  - **$10,000 and more?** 25 ○
    - **Less than $15,000?** 30 ○
    - **15,000 and more?** 31 ○
- **$20,000 and more?** 20 ○
  - **Less than $40,000?** 26 ○
    - **Less than $30,000?** 32 ○
    - **$30,000 and more?** 33 ○
  - **$40,000 and more?** 27 ○
    - **Less than $60,000?** 34 ○
    - **$60,000 to less than $80,000** 35 ○
    - **$80,000 and more?** 36 ○

No income . . 21 ○

Don't know . 22 ○

Refused . . . . 23 ○

Section R: Contacts for follow-up

R1. *INTERVIEWER*

◆ *Read the following section for each person interviewed.*

This survey is part of a longer-term project to investigate the relationship between health and other social issues.

For this reason, we may need to contact your household in a year or more from now.

In case you move or change phone numbers, we would like to obtain your complete name and address. This information will be kept strictly confidential and will only be used to maintain contact with you.

Refused to provide information . . . . . 3○
Refused to participate in future surveys . . . . . 4○ } *Go to R8*

R2. Name of Respondent

Given Name . . . . . |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

Surname . . . . . |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

R3. Address of Respondent

Street and Number/
Lot and Concession . |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

City, Town, Village
Municipality . . . . . |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

Province/
Territory . . . . . |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

Postal Code . . . . . |_|_|_| |_|_|_|

R4. ◆ **Would you please give me the name, address and telephone number of someone we could contact if you move, such as a friend, relative or neighbour.** (I want to emphasize that we will contact this person only if you move and then only to obtain your new address or telephone number.)

Refused to provide contact . . . . . 5○ → *Go to R8*

R5. Name of Contact

Given Name . . . . . |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

Surname . . . . . |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

R6. Address of Contact

Street and Number/
Lot and Concession . |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

City, Town, Village
Municipality . . . . . |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

Province/
Territory . . . . . |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

Postal Code . . . . . |_|_|_| |_|_|_|

R7. Home Telephone of Contact

|_|_|_| – |_|_|_| – |_|_|_|_|
(Area code)

R8. *Interviewer:*

Thank the respondent and end interview.

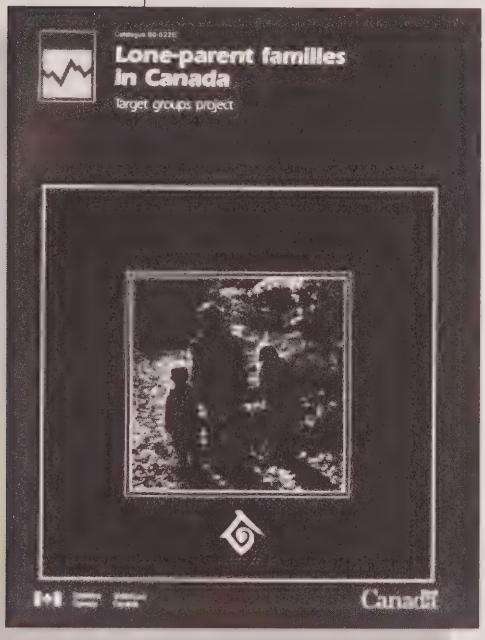
R9. *INTERVIEWER CHECK ITEM:*

What is the sex of the respondent?

Male . . . . . 6○

Female . . . . . 7○

Lone-parent families in Canada



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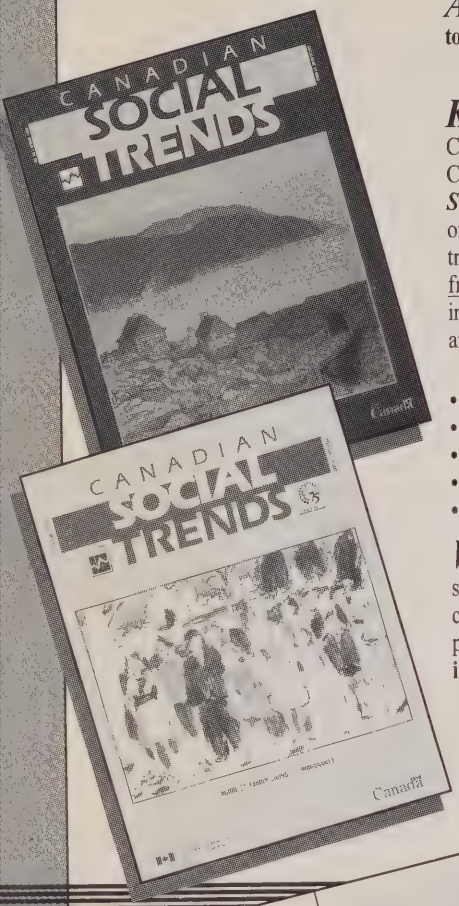

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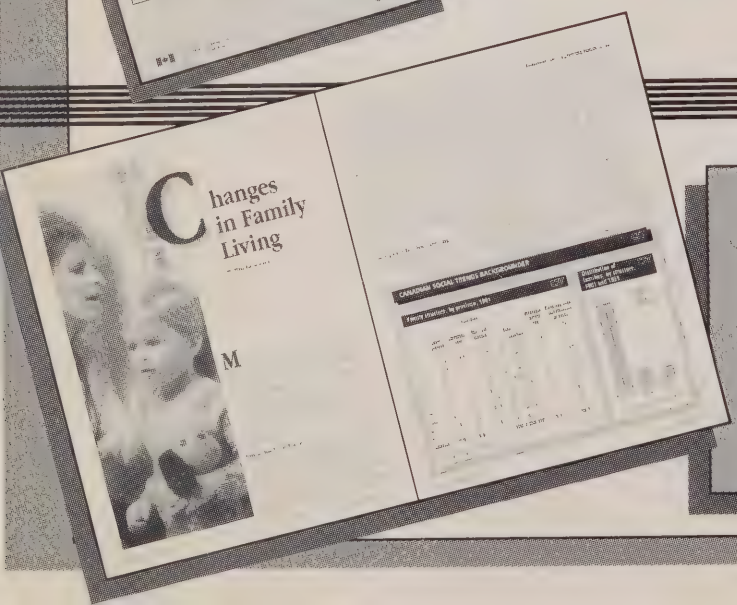

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